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Volume 27

Urban Matters. Current approaches in variationist sociolinguistics
Edited by Arne Ziegler, Stefanie Edler and Georg Oberdorfer
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Preface

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The urban realm and qualities of urbanity, leaving their trace in linguistic practices, have not only recently been the subject of greater attention. For several decades, they have constituted a focal point in the context of sociolinguistics and variationist linguistics. While the topic of urban language(s) is thus not new, it is still, and more than ever, an essential and vital subject. As various societal factors – such as higher mobility, increased and diversified contact, as well as new media channels – have an intensive and wide-ranging impact on modern society, conventional assumptions and established perspectives require re-evaluation, revision and possibly even re-conception.

This understanding provided the initial impulse for the thematically focused collection of articles presented here, bringing together the sociolinguistic approaches and perspectives of various international researchers in contributions to the current state of theoretical and empirical research in the field of urban language. This volume presents selected papers on urban language use – its characteristics, its variability, and its dynamics. These qualities of urban communication are often discussed in contrast to rural or suburban communication, or in the context of (spatial and social) mobility and/or (regional or gender-related) identity construction, and with regard to language contact, dialect levelling and diffusion processes by means of spoken and written language in private and public spheres.

The local centre of attention lies on the western regions of the northern hemisphere. By spotlighting sites in Europe and North America, this collection presents research on a variety of urban areas and different languages, while at the same time providing a balanced and focused orientation, as the populations considered here share – at least to some extent – basic ecological, economic, sociocultural, and thereby also certain lifestyle-specific aspects, allowing for better comparability.

The conceptual core of the book is inspired by the fundamental ideas of Labov’s research and the theoretical and methodological perspectives evolving from his work. In this spirit, it integrates approaches addressing linguistic dynamics and change through social space as well as examines variability by shedding light on the relation between linguistic features/patterns and, inter alia, social meaning and
macrosociological categories. However, the research presented here by no means represents a mere replication of traditional studies, rather picking up on their accomplishments and providing, as Kerswill puts it in the opening chapter, an update of first wave approaches. The corresponding concepts are rethought and adapted to contemporary concerns dealing with the urban realm – a societal space characterized by the vibrant interaction within modern populations as well as by various forms of mobility (including mutual connections to non-urban areas), constantly growing in size, form, and complexity. First wave research is merged into a modern mindset operating on an adapted scope and focus as well as updated research practices in order to capture, understand, and interpret the implications of these dynamics.

Barbara Johnstone’s contribution must be seen as a kind of juxtaposition, providing a programmatic orientation with strong emphasis on stylistic practice and greater consideration of the speaker’s active role. The third wave view presented in this chapter is to be understood as a complementary perspective rather than a contrasting one. In more general terms: these different approaches should not be regarded as rivalling research strategies, where one supersedes the other, but rather as compatible ways of dealing with present and future research interests that mutually complement each other. Since there is always more than one way to achieve the same goal in linguistics, we have chosen a prominent position at the beginning of this volume for Johnstone’s complementary point of view, thus highlighting her differing approach.

As Paul Kerswill will show in his introduction, the various articles of the volume form a whole, tackling various “urban matters”. The researchers that contributed to this book all started at the same point, taking into consideration not only urbanity as a category relevant for linguistic variability and change, but also socio-pragmatic features that define a given city and its speakers. In light of this common orientation, they then highlight various aspects of urban language research by pushing forward into new fields. Thus, this book presents new and updated approaches to urban language behavior, including the discussion of factors like identity (e.g. Johnstone; Beaman) or indexicality (Nilsson/Wenner/Leinonen/Thorselius). Other authors present innovative methodological strategies, showing how more modern types of data can be analysed and modelled (e.g. Blaxter/Gopal/Leemann/Willis), or how traditional (dialectometrical) methods can be applied to urban data in new ways (e.g. Pröll/Elspaß/Pickl). Complementing and updating previous work, the volume provides outstanding additions and revisions with respect to the rural-urban continuum (e.g. Jankowski/Tagliamonte) and to urbanity as a crucial factor affecting the distribution and use of certain language features (e.g. Ziegler/Oberdorfer/Herbert), as well as the speakers’ attitudes (e.g. Nesbitt). This volume further considers societal factors that are powerful at the present day
and addresses new dynamics of mobility such as urbanization, counterurbanization, or international mobility and their effects on language use (Duncan, Britain/Grossenbacher). The attitudes toward and social meaning of these phenomena are also considered (Marzo/Natale/De Pascale).

By bringing together these complementary pieces, this volume composes a profound picture of language in the city, and by approaching the subject matter from different angles, we believe that this book constitutes a valuable reference work and a relevant contribution to the current state of theoretical and empirical research.

The idea for an edited compilation of this sort originates from our research in the field of urban language studies. Our main research for the past several years has focussed on language variation and change in the Austrian urban sphere, including comparative analyses of the cities versus their suburban surroundings, as well as more rural regions. We are therefore firmly committed to increasing the body of knowledge on urban linguistic characteristics and practices in an extensive and thorough manner. We believe such an objective can only be achieved collaboratively. In this light, this volume is not only meant to make a contribution to this effort, but shall also serve as an impetus for future research.

This volume could not have been realised without the support of our research assistants, who proofread, revised and edited the manuscript thoroughly and with the greatest care. We would like to thank Gerrit Tscheru, Teresa Monsberger, Lisa Handler and Maximilian Pitner for their patient, precise and reliable work. We are also indebted to Elisabeth Scherr and Melanie Lenzhofer, who completed the final revision of each article, as well as to the two anonymous reviewers, who invested considerable effort in their evaluation of the manuscript. We are deeply grateful for their invaluable comments and advice in addressing final issues, and their helpful suggestions. We would also like to thank the editors Peter Auer, Frans Hinskens and Paul Kerswill for accepting this volume for their book series, and the John Benjamin publishing company for including it in their programme.

Furthermore, we gratefully acknowledge the support of the Austrian Science Fund (FWF), which has provided the foundation for our work by funding the special research programme ‘German in Austria’ under the grant number F 6004-G23.

Last but not least, we wish to thank all the authors for their contributions, and express our gratitude for their collaboration and patience – without them, this volume would not exist!

Arne Ziegler, Stefanie Edler and Georg Oberdorfer,
Graz, Summer 2021
Space and time have become core concerns of variationist sociolinguistics over the past decades (Britain 2002, 2016; Schmidt 2010–2019; Auer et al. 2013; Auer 2018), an emphasis which in many ways marks the unification of variationist approaches with dialectology. This volume showcases a number of studies in this area; all focus strongly on the diachronic dimension, with most also concentrating on *space* in both its Euclidean and subjective senses, while a few focus in on its complement, *place*, taken in the sense of “place identity” (Johnstone 2011: 203). One of the difficulties with combining reports from unconnected studies in one volume is that unity ends up being unnaturally foisted upon projects with disparate aims. Despite the wide range of methods covered in these chapters, that is not the case here.

A glance through the chapters reveals that at least four themes come up repeatedly:

- Place identity vs. contact and mobility
- Fragmentation of the city
- Shifting indexicalities
- Geography and language change

These are central themes in variationist sociolinguistics, and characteristically they play on the notion that individual speakers are in a dialectic with the macrosocial forces that envelop them. Labov’s view typifies this approach:

> [T]he individual is very difficult to understand; even the small group is very hard to understand unless you know something about the community or group they’re coming from, because the individual’s behavior is determined by the social forces that intersect with their individual lives.


What we see in these chapters, however, is not so much an exploration of individual motivations and behaviours, as an account of the interaction, or even competition, between the larger-scale factors and the way they conspire to induce broad,
quantifiable patterns of linguistic variation. Individuals are not neglected, but the focus is not on them.

This book is at heart an update of ‘first wave’ sociolinguistic methods and concerns, focusing as it does on these broader patterns. The ‘update’ lies in a more complex social analysis than was originally present in the sociolinguistic enterprise. The analysis is not Marxian in the sense of explicitly dealing with significant rifts, and hence opposing interests, in society. The brief discussion of Bourdieu in the book does not deal with linguistic capital, but rather with a ‘discourse of values’ (see chapter by Duncan). Social class, gender and ethnicity play their part as factors to be associated with variation, but they are not held up to scrutiny. Rather, the emphasis is on historical processes over a long period, including suburbanisation, de-industrialisation and counter-urbanisation, as well as major political changes in twentieth-century Europe. Coupled with this are not only the notions of place and space, but also identity – especially when it is based on place. Geography is central to several papers, bringing with it not only the investigation of spatial differentiation, but also a critical evaluation of diffusion models. Often set up in contrast to diffusion is transmission (Labov 2007; D’Arcy 2015; Jankowski and Tagliamonte, this volume); together, diffusion and transmission form a sociolinguistic and acquisition-based theory of language change.

As a way of demonstrating the connections between the papers, let us consider how they meet in their shared coverage of the themes mentioned above, arguing that the contributions are mutually enriching.

1. Place identity vs. contact and mobility; fragmentation of the city

Several chapters deal with the themes of identity, contact, mobility and fragmentation; here, I will highlight the discussions where this is to the fore. Johnstone (Chapter 1) is placed first, with good reason. In her programmatic, scene-setting treatment, she considers cities as wholes rather than a collection of disparate communities. She highlights the city as heterogeneous and with the potential to fragment, emphasising the sociolinguist’s role as characterising how that heterogeneity plays out through time, while also investigating differences in mobility within the city.

In many ways Duncan (Chapter 3) picks up where Johnstone’s theoretical chapter leaves off. He too looks at heterogeneity and fragmentation, but uses empirical data to show how this maps onto linguistic variation. Homing in on residents of St Louis, Missouri, he finds that those who live in the suburbs use a vowel system that is more levelled, and less characterised by the Northern Cities Shift (NCS; Labov, Ash and Boberg 2006), while those who live in the downtown area use
more characteristically local, NCS, variants. Duncan sees this as a matter of identity and *habitus* (Bourdieu 2010); however, he is able to conclude that mobility is an intervening variable between identity and language production: mobility is part of the *cause* of the identity. Duncan firmly locates his conclusions within a detailed account of the history of urbanisation in the USA.

In a South German context, for Beaman (Chapter 2) the city is seen as a place of influence and possible loss of dialect, with differences in size favouring/disfavouring dialect loss (a theme later taken up by Ziegler, Oberdorfer and Herbert, this volume). Like Duncan, Beaman deals with change over a considerable time span. However, she has the advantage of a panel study. By re-interviewing 20 participants after 35 years, she finds considerable differences between individuals in the extent of their convergence towards a more standard German. The participants’ social histories are quite varied, some having moved away and returned, others having moved within the region, and yet others having remained sedentary. In the end, local identity factors trump contact and mobility – though it is not always possible to say which comes first. This conclusion is different from, but not inconsistent with that of Duncan.

2. **Shifting indexicalities**

Rather than looking at the linguistic consequences of social change, it is possible to start from the linguistic variable and trace its patterning through time. Nesbitt (Chapter 7) takes this approach to the NCS in its heartland of Michigan. The characteristic vowels of the NCS have long been a largely unnoticed indicator in the US, being characteristic of the Northern Cities region but not attracting any attention either from locals or from outsiders; in fact, the accent is often regarded as epitomising correctness. And yet, in recent years these vowels, particularly raised variants of /æ/ (as in *trap*), have become ‘markers’, perceived by some as ‘accented’ or even ‘bad English’. Nesbitt uses a variant of the matched-guise technique to investigate this.

Another vowel, this time in the Swedish of Gothenburg and its rural surroundings, is likewise undergoing a change in its indexicalities. Using recordings, an attitude survey and an Implicit Association Test, Nilsson, Wenner, Leinonen and Thorselius (Chapter 8) trace the use and the social evaluation of the so-called ‘damped’ /iː/, pronounced [ɨː]. This variant led a double life: in the first part of the twentieth century as a marker of place (here, the rural district of Skärhamn) as well as class and femininity (in Gothenburg, indexing refinement). Today, in Skärhamn it indexes authenticity and localness, while the more normative [iː] is considered urban; in Gothenburg, there is little conscious awareness of it, if anything signalling
‘somewhere far away’, including ‘rural’, while for younger people it has lost its association with a higher class. Interestingly, most younger Gothenburgers in the sample seemed unaware that they actually used it themselves. The broader social context is one of contact between Skärhamn and Gothenburg caused by commuting to the city.

A rather different approach to changes in indexicality is the chapter by Marzo, Natale and De Pascale (Chapter 5). This study deals with attitudes to regional Italian varieties as a whole (rather than individual features) in the context of the emigration of speakers to another country. The authors find that Italians in the home country and those who have settled abroad differ in their view of ‘good’ regional standard Italian: those in Italy favoured Milanese, whereas those who had moved abroad preferred Neapolitan Italian. The explanation, the authors believe, lies in changes in what is believed to constitute the standard, possibly influenced by an ‘expat nostalgia’.

3. Geography and language change

In this final section, we are dealing with chapters which focus specifically on geography, where ‘geography’ can be seen as physical space and (Euclidean) distance mediated by social and historical changes.

Pröll, Elspaß and Pickl (Chapter 10) use a questionnaire to investigate forms used in cities across two countries (Austria and Germany), by using large, stratified samples, and by asking a specific question: does spatial variation exist within single urban conglomerations? Or is the observed variation better explained as social variation? Taking three highly contrasting conglomerations, the Ruhr district, Berlin and Vienna, they conclude that, in the more widely spread-out Ruhr, there are still traces of the former local dialects, while in Berlin the differences, while having a social component, are more readily predictable from the former division between West and East Berlin. Vienna, which is more compact geographically, shows little linguistic variation purely ascribable to geography; social distinctions prevail, but these are only marginally reflected in the linguistic variation. However, there is a weak north/south divide in the linguistic responses.

Ziegler, Oberdorfer and Herbert (Chapter 9) investigate the relative influence of larger vs. smaller cities on their hinterlands, choosing Vienna and Graz as their test cases. They focus on one feature of derivational morphology, diminutives. Not only is their use held to be characteristic of German in Austria, but they take forms different from the normative standard. Using two age-stratified corpora of spoken language, they quantify the use of the various forms. Results show that Viennese speakers use the fewest local Austrian diminutives, though they are still
more frequent than standard ones. Graz speakers use proportionally more Austrian variants. As for the surrounding districts, in each case their distributions tend more towards the use of Austrian variants than is the case for the cities, with use being greater in the hinterland of Graz than in that of Vienna.

Jankowski and Tagliamonte (Chapter 6) tackle head-on the issue of the spread of innovative forms across geographical space, by looking at the spread of an innovation in Toronto and its large hinterland. In Canadian English, there is a gradual shift from the forms *somebody, anybody, everybody* and *nobody* to *someone, anyone, everyone* and *no one*. In addition to looking for evidence of diffusion or transmission, the authors hypothesise that smaller, relatively isolated communities will promote the change to a lesser extent than large, well-connected cities; they thus test Trudgill’s (2011) theory of sociolinguistic typology. The results show that the constraints, in this case the ranking of the four forms (with *someone* in the lead), remain the same, even if the frequencies of -one is higher in Toronto than in the rural areas. Contrary to expectations, there is also little effect of distance from Toronto: all the rural locations are proceeding at the same rate. This leads the authors to the conclusion that there is no hierarchical diffusion, which would show sensitivity to distance from the centre. (Hierarchical diffusion is also addressed by Blaxter et al., in this volume, with a different methodology.) Because the constraints remain the same, there is, they argue, little diffusion of any sort. Instead, they argue that there is parallel, non-contact driven transmission following a trajectory originating a long way back in time.

Britain and Grossenbacher (Chapter 4) investigate dialect change by focusing on the link between urbanisation, counter-urbanisation and social networks. Their main point is that, in England at least, there is currently, and has been for several decades, a strong out-migration from urban to rural areas, leading to the transplantation of levelled, often standardised middle-class accents. This means that speech in the villages is often less dialectal than in the local towns and cities. The feature they look at is the continued use of the vowel /ɛ/, as in *dress*, in a small group of words including *have*, and the vowel /ɪ/, as in *kit*, in words including *get*. The field site is East Anglia (the easternmost part of England); here, the non-standard vowels have persisted in a small number of words. Interestingly, the word *get* takes on a quality that is intermediate between the canonical standard vowels *kit* and *dress*, while *have* is intermediate between *dress* and *trap*. This feature is not salient in the community, and the authors suggest this is why they have been maintained, even in villages which are the most ‘levelled’.

In common with Jankowski and Tagliamonte, Blaxter, Gopal, Leemann and Willis (Chapter 11) set out to test the diffusion model against data collected in a geographically systematic way. Their approach is a radical departure, however, in that it compares differences in population density and linguistic similarity between
adjacent locations, in order to determine whether diffusion occurs in a hierarchical fashion or diffuses steadily. This follows Trudgill’s (1974) hierarchical diffusion model by which more densely populated areas transmit features to less densely populated areas; if the linguistic similarities between adjacent locations do not correlate with differences in population density, then the diffusion moves at a constant rate independently of density, and is thus not hierarchical. A second important departure in the chapter is the use of Twitter data to obtain linguistic data at a very high geographical resolution (cf. Stevenson 2016). Of the two features the authors examined, one showed clear evidence of hierarchical diffusion across the country: this is the spread of the preposition-drop construction, as in ‘we went _ the pub last night’, corresponding to ‘we went to the pub last night’ in other varieties. In this chapter, the combination of a new quantitative approach to regional variation with a new methodology allowing for fine-grained geographical data demonstrates how advances in theory and method have the capacity to point a way forward to new understandings.

This book, then, brings together important research that in many ways is a natural continuation of Labov’s variationist enterprise, enriching it in the process.

References


The sociolinguistic city

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What might we learn if sociolinguists’ objects of study were cities rather than speech communities within cities? Drawing on urban sociology, I suggest that we think of a city as a site of encounter among different sociolinguistic worlds. This would force us to confront heterogeneity, to ask how and when disparate linguistic resources, language ideologies, and communicative practices bump up against each other and impinge on each other. We would have to consider urban mobilities and their sociolinguistic consequences. We would also need to rethink how sociolinguistic practices circulate in non-face-to-face contexts, asking about the role of material artifacts in this process. I illustrate each of these points with examples from my and others’ research.

Keywords: cities, urban studies, heterogeneity, encounter, mobility, circulation, Pittsburgh, Sydney, migration, sociolinguistics

1. Introduction

Sociolinguistic research that is, on the face of it, about a city is often actually about only part of that city. The city is the context for the work, but the work is not about the city qua city. The pioneering variationist sociolinguists have long been associated with cities – William Labov (1966, 1972) with New York; Peter Trudgill (1974) with Norwich; Lesley Milroy (1987) with Belfast; Jenny Cheshire, Sue Fox, Paul Kerswill and Eivind Torgersen (2011) with London. However, their research is actually about one or more subsets of the city’s population: white New Yorkers from the Lower East Side and African American New Yorkers from Harlem in Labov’s case (1966), long-time residents of Norwich for Trudgill (1974), two Belfast neighborhoods for Milroy (1987); inner-city youth in London for Cheshire et al. (2011). Even what is sometimes called urban sociolinguistics (Smakman and Heinrich 2018), which asks about the effects of urbanity and urbanization on variation and change, is typically about linguistic phenomena that tend to occur in cities (such as language contact, ghettoization, and the emergence of new youth varieties) but not about cities per se.
What could a comprehensive sociolinguistic description of New York or Berlin or Graz look like? Of course, one possibility would be a workshop, a conference panel, or an edited volume with presentations or chapters about various aspects of an urban sociolinguistic world, each prepared by someone working on a different project with different goals and methods. Such projects can of course be useful, bringing together people who might otherwise not talk and perhaps sparking new ideas for individual projects. But they can also lead to the sort of fragmented, partial view of the whole that is the point of the fable about the blind men and the elephant, where one person knows the elephant’s trunk well, another is intimately familiar with the legs, another can describe the tail in detail, but no one knows what the whole beast looks like (see Figure 1). What if, instead, we all started out with the same set of goals and methods, asking the same questions about as many sociolinguistic subsets of a city’s population as possible? What would we learn by taking a city not just as the site for sociolinguistic work but as the object of sociolinguistic inquiry?

In this chapter I outline some of the many directions a project like this might take us, if it were done well. After a brief sketch of some of the foundational literature in urban sociology, I suggest that we think of cities as places where different ways

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1. According to Wikipedia (“Blind Men and an Elephant”), this “is a story of a group of blind men, who have never come across an elephant before and who [try to learn] what the elephant is like by touching it. Each blind man feels a different part of the elephant’s body, but only one part, such as the side or the tusk. They then describe the elephant based on their limited experience and their descriptions of the elephant are different from each other. The moral of the parable is that humans have a tendency to claim absolute truth based on their limited, subjective experience as they ignore other people’s limited, subjective experiences which may be equally true.”
of being bump into each other. I will argue that, in addition to studying the various ways of being – speech communities, communities of practice, ethnic groups, and so on – that exist in a city (something we already do well), we could benefit from looking more closely at how a city’s diverse ways of being impinge on one another, if they do.

Doing this would force us to confront heterogeneity in a new way. If we were interested in cities as wholes rather than in individual communities in cities, we would want to know not just how a city is heterogeneous, but when and how disparate resources, worlds, and ideas come into contact, and how and when they affect each other. We would also have to consider mobility of all kinds. Different ways of being, talking, and doing things come into contact as people move from place to place, both in the longer term (who migrates to where, and why?) and in the shorter term (how do people move around in the city in their daily lives?). Finally, we would need to rethink how sociolinguistic practices circulate. Traditional sociolinguistic research, based on speech communities or communities of practice, locates circulation primarily in face-to-face interaction. In a city, people may come to share ideas and habits in other ways, including via material artifacts.

2. Cities as sites of encounter

Cities began to interest scholars during the 19th century. Industrial cities brought with them new kinds of social differentiation. New forms of property (such as capital) and new technologies (such as factories) led to a new middle class, to massive urbanization, and to the separation of home and work. This made scholars wonder about the nature of human social bonds and to ask whether traditional bonds were breaking. As Karp, Stone, and Yoels (1991: 5) put it, “probably the most important advances in sociological theory have originated from the many attempts made by social scientists and social philosophers to explain this fundamental transformation in the nature of the social bond”.

In earlier social arrangements, people’s relations with one another were dictated by their status – their family origin, order of birth, or pre-determined social position. Now, social relations had to be negotiated and shaped by mutual agreement. Ferdinand Tönnies (1887) distinguished between Gemeinschaft and Gesellschaft as two modes of social organization. A Gemeinschaft is a traditional community, such as a feudal one, in which individuals are bound together by kinship and by shared traditions, beliefs and identities. Gesellschaft is the newer system characteristic of cities, in which people are more heterogeneous and individualistic and social relations are a matter of agreement, such as those between merchants and their customers. According to Karp, Stone, and Yoel (1991, 10), “the associations of
*Gesellschaft* are typically contracted in commodity exchange and sealed by promises and conventions that are as likely to be breached as to be fulfilled.” In a Gesellschaft, individuals act in ways calculated to advance their self-interest.

Sociologists like Simmel (1950), Park (1925, 1926), and Wirth (1938) noted the relative sophistication of urbanites due to their exposure to many stimuli. However, they also noted the increased segmentation, fragmentation, and individualization of urban social life. City-dwellers need to evaluate themselves and others and rank them hierarchically, since social status is no longer an automatic consequence of birth. Urbanites need more formal methods of social control to replace the informal ones of the countryside. The lack of pre-existing social control in a city means that people are freer, but it also means that people have to depend on themselves. City life leads to increased individual variation and to individuals’ self-segregation into groups according to shared characteristics. This leads to the compartmentalization of personal life, as people belong to multiple groups which may intersect, if they do at all, in various ways. Contacts may become more superficial and fleeting.

A common thread in earlier urban sociology is that the city is a problem. The city kills community. As Mac Giolla Chriost puts it (2007: 16), “[C]ities disorganise social life as previous forms of social organisation are undermined and replaced by social relations whose organisation is based on indifference, superficiality and individualistic materialism”. City life is anonymous, rootless, depersonalized. There is more than a small element of nostalgia here for an idealized pre-industrial past.

More recent sociologists argue against this view, noting that community does exist in cities. City dwellers do create networks of interaction, in places like shops, bars, and cafes. They also form communities around children, sports, hobbies, and work. While it is true that urban dwellers may need to protect themselves from social overload, they also need social approval. So rather than not interacting, as the classical theories suggest, they try to minimize involvement but also maximize social order:

> While urban persons may spend relatively little time engaged in direct verbal interactions with one another, they are nevertheless deliberately acting in awareness of, and adjusting their own behaviors to, the possible response of others.
> (Karp, Stone and Yoels 1991: 89)

Pedestrians cooperate so as not to collide; people in subways and public bathrooms cooperate to maintain ‘civil inattention’. In any event, there is overt sociability in places like parks and outdoor restaurants, if they are designed properly, and people do interact with strangers in laundromats or on public transportation, for example. This may occur particularly when something goes wrong, but people can cooperate to create openings for interaction. Cities become sites for creativity when people encounter others who are different; alterity and strangeness can be liberating. (Cities were, for example, the earliest sites of openly gay life.)
One of the key themes of this body of literature is that in cities different people come together in new ways. Different ways of being bump up against each other, and there are no shared, pre-determined rules for how these encounters proceed and what their results are. What if, as sociolinguists, we focused on these encounters? In what follows, I explore three facets of urban encounter and their outcomes, facets of encounter that a sociolinguistics of the city would need to take seriously.

2.1 Heterogeneity and sociolinguistic encounter

The heterogeneity of a city may lead to increased interaction among people with different identities and lifeworlds, but geographical proximity by no means guarantees social interaction and may even highlight social difference. A well-known early study (Zorbaugh 1929) showed how the rich and the poor can be spatially close in a city without necessarily sharing a lifeworld. In Chicago’s Near North Side, wealthy whites inhabited lakefront property that abutted poor, African American neighborhoods immediately inland, but the two groups rarely communicated. Processes such as legal segregation, residential red-lining (when banks refuse mortgage loans in certain areas) and gentrification can mean that different communities are geographically close but still socially distant. It may appear to make sense, then, to assume that communities that are as profoundly segregated as native Europeans in central cities and immigrants in outlying neighborhoods, or African Americans and whites in U.S. cities, live in different sociolinguistic worlds that overlap, if at all, only in superficial ways, and to treat them sociolinguistically as separate speech communities.

However, speech communities that start out separate can have significant effects on each other over time. Immigrants who are initially isolated from the local speech community can and do become part of it, affecting the community as a whole. Horvath (1998) shows how Italian and Greek migrants to Australia in the 1940s and 1950s moved from accented second-language English to Australian English over two generations. While the Italians adopted ‘broad’ or ‘general’ Australian English, the Greeks adopted the ‘cultivated’ variety that was associated with England, becoming less and less linked with Australian identity, thereby helping to keep this variety afloat. As Horvath (ibid.: 90–91) points out:

The role of migrants as agents of language change should be a particularly fascinating one for sociolinguistics. However, all too often migrants […] are defined out of the field of interest; they are not considered to be members of the speech community because they do not speak the language as native speakers.
Furthermore, variationists’ tendency to assume that

the people living within the confines of the city could be regarded as members of
the speech community, unless of course they were clearly a subculture within that
city […] where they were considered a separate speech community. (ibid.: 101)

means that the question of how people move into a speech community tends not
to be raised.

Horvath (ibid.) discovered something new by asking about a kind of encounter
that is too rarely asked about, because the encounter occurs between people who
are thought too different to form part of the same object of study. Likewise, my col-
teagues and I were able to discover something new about the sociolinguistic world
that is Pittsburgh by asking about encounters between two groups of people who
are typically thought of as different speech communities and are therefore usually
studied separately: African Americans and whites.

African Americans moved from the southern states to Pittsburgh in several
waves, starting in the 19th century. They have always been residentially and socially
segregated from white Pittsburghers. Informal observation makes it clear that Black
and white Pittsburghers can sound quite different. African American Pittsburghers
sometimes use linguistic features that have been described for African American
speech in general, and white Pittsburghers sometimes use features of the distinc-
tive white dialect of southwestern Pennsylvania. Accordingly, the original plan of
the Pittsburgh Speech and Society Project (Johnstone 2013; Johnstone et al. 2015),
which had the goal of describing this southwestern Pennsylvania dialect, was to
focus solely on white speakers.

However, a combination of lucky circumstances made it possible to expand
the project to include speakers from an African American neighborhood. We used
the same interview protocol with them as with the white speakers and asked them
the same questions about the local white dialect, known as Pittsburghese, along
with some extra questions about African American speech. Maeve Eberhardt
(2008, 2009a, 2009b, 2012) used this data to explore African American speech in
Pittsburgh. Eberhardt found that while Pittsburgh African Americans claim not
to use Pittsburghese, linking it with white people and with the identity of a city
they believe is particularly racist, they do have a number of linguistic features in
common with local whites.

Pittsburgh is a medium-sized city in the U.S. state of Pennsylvania. Formerly the center of
steel production in the U.S., its economy now depends on the education, health care, and tech-
nology sectors. One thing that distinguishes Pittsburgh from other ‘rust-belt’ post-industrial
cities is the tight connection between local speech and local identity.
Most notable is the merger of the low back vowels /a/ and /ɔ/, so that pairs of words like cot and caught or don and dawn are heard and produced as homophones. This merger is common in whites’ speech throughout North America, but it is rare in African American speech. In Pittsburgh, the merger has been complete in whites’ speech for many decades. This means that African American Pittsburghers might have been exposed to it at a time, during the late 19th and early 20th centuries, when whites and Blacks were in more frequent contact than before or since. This was a period when whites and Blacks would have interacted at work in the steel industry and when Black women travelled to white neighborhoods to work as maids. Crucially, Pittsburgh’s schools were never racially segregated the way schools in many other American cities were, and primarily African American neighborhoods like the Hill District were more racially diverse than they later became. Mergers are rarely the object of sociolinguistic stereotyping, and in fact are typically below the level of consciousness, and accordingly the low back merger has never been enregistered with Pittsburghese and hence with local white identity. Thus the conditions were right for African American Pittsburghers to adopt a feature of local whites’ speech that distinguishes them from Africans Americans in other cities.

However, African American Pittsburghers have not adopted a feature of Pittsburghese phonology that is highly stereotyped, namely /aw/-monophthongization. The monophthongization of /aw/, which makes “house” sound like [haːs] and “downtown” like [daːntaːn], is commented on metalinguistically more often than any other phonological feature of local white speech, via re-spellings like “hahs” and “dahntahn” and in puns (Johnstone, Bhasin and Wittkofski 2002). Eberhardt (2012) suggests that this explicit linkage of monophthongal /aw/ with Pittsburghese accounts for African Americans’ resistance to it. Eberhardt’s work illustrates how, by not assuming a priori that Blacks and whites are different speech communities (as sociolinguists often have) and studying them separately, we can unpack the effects of the ways in which Blacks and whites bump up against each other sociolinguistically.

Thinking about contact across sociolinguistic difference also, unfortunately, exposes some gaps in the history of Pittsburgh speech that I wish I could fill. One of these is the following: During the late 19th and early 20th centuries, Pittsburgh’s industries attracted huge numbers of immigrant laborers from eastern and southern Europe. As typically happened during this period of migration to the U.S., young immigrants and the children of immigrants learned to speak English with a local accent, as opposed to carrying on the accented English of their parents or adopting a more standard variety. The result is that the dialect of the earliest settlers in the area tended to be carried forward as they were joined by subsequent in-migrants. This process has been called the “founder effect” (Mufwene 1996).
It is unclear, however, exactly how this happened in Pittsburgh. European immigrants typically settled in the neighborhoods where they worked, with other people of the same ethnicity. They built churches and church-run schools that were mono-ethnic and conducted much of their business in the homeland language. Describing a parochial school in the Pittsburgh area in 1907, sociologist Byington (1974) noted that such schools kept immigrants’ children segregated from others and discouraged the use of English. Lamenting the poor English of even the teachers, Byington (ibid.: 159) notes that “if the foreign children played and studied with American children, barriers to mutual understanding would be overcome”. But boys from different ethnic groups formed gangs and fought with each other – the Irish against the Slovaks, the Slovaks against the Croats, and so on. Young people were rarely, if ever, in contact with people from other backgrounds until they were in high school, if they had not dropped out of school earlier (Bodnar, Simon, and Weber 1983).

Where, then, did young immigrants come into contact with Pittsburgh children who could serve as models for how to speak English? In the abstract, the founder effect accounts well for the fact that Scotch-Irish expressions like redd up (‘clean up’), nebby (‘nosy’), and slippy (‘slippery’) have persisted in Pittsburgh speech. But if we are attuned to the particular situations in which different communities encounter one another, this account appears incomplete.

2.2 City mobilities and urban encounters

Clearly, mobility is implicated in how and when urban people bump up against people who are different, and in the sociolinguistic results of these bumpings-up. Mobility often causes people to experience regional speech differences in new ways (Beal 2009; Johnstone, Andrus and Danielson 2006; Johnstone and Kiesling 2008).

One context in which this can happen is in gentrifying neighborhoods. According to Hamnett (2003), gentrification arises from the shift from industrial to post-industrial society, as a new middle class emerges. In the post-industrial service and technology economy, a higher percentage of the workforce is better educated, with a relatively liberal social and political outlook and an aesthetic sensibility that values being close to central city cultural facilities and prefers older housing stock. More dual-career households mean more disposable income. Furthermore, the cost of the technologies that make it possible to renovate old houses has fallen: it is cheaper to ‘flip’ an old house than it once was. At the same time, however, de-industrialization has also resulted in an expanded, de-skilled working class, members of which may still live in the old working-class neighborhoods that seem most desirable to gentrifiers.
As Calvin Pollak and I (Johnstone and Pollack 2016) have shown, the younger artists and professionals who are moving into some of Pittsburgh’s old working-class neighborhoods have a distinctly different way of imagining what Pittsburghese is and what it means to speak it than older Pittsburghers do. We argue that this has to do in part with their experiences as people who have in many cases recently moved to Pittsburgh as well as their experiences as they move around their neighborhoods. The gentrifiers often come from elsewhere and have not grown up among people with Pittsburgh accents. They also lack extensive experience with the representations of Pittsburghese on t-shirts, coffee mugs, and websites, that shape and standardize people’s ideas about what the dialect consists of (Johnstone 2009, 2013).

Since they do not know what to listen for when they hear Pittsburghers’ speech, the gentrifiers’ face-to-face interaction with their working-class neighbors and people they hear in their daily movements around the city leads them to identify anything nonstandard that they hear as Pittsburghese. As a result, as Pollak and I show (2016), when they talk online among themselves about Pittsburgh speech, they cite nonstandard features not traditionally thought of as Pittsburghese, such as negative concord, features that are in fact vanishingly infrequent in Pittsburghers’ speech (such as the pronunciation of *humid* as /jumɪd/), and features characteristic of casual English anywhere.

Furthermore, the sentences in which they embed examples of what they think of as Pittsburghese are often complaints and fairly direct directives like these:

- *My* hair keeps getting frizzy in this yumid (humid) weather!
- you better wrench (rinse) out those warsh (wash) rags!
- this turlit (toilet) needs fixed!

As these gentrifiers talk about Pittsburgh speech as they experience it, they construct an image of the stereotypical Pittsburgher as a disaffected, ignorant member of the post-industrial underclass. For an older generation of mobile Pittsburghers, those who left the city when the manufacturing economy collapsed in the 1980s, mobility felt like a loss of place. For them, talking about Pittsburghese is a way of reconnecting with home, reclaiming lost identity (Johnstone and Baumgardt 2004). For the younger gentrifiers, moving to the city now that the economy has rebounded, being mobile means severing ties to place-based, ready-made identities. Talking about Pittsburghese is a way of consuming localness without identifying with it. Their experiences of mobility – both the larger-scale mobility of moving from one place to another and the smaller-scale daily mobility of walking in their neighborhoods and traveling around the city – give rise to a way of imagining Pittsburgh speech that is very different from that of other Pittsburghers.
Other illustrations of how routine daily mobility can shape language practices and ideas about language have to do with how people get to work. One option is public transportation, which in Pittsburgh consists mainly of buses. Young people like the gentrifiers look favorably on public transit, and bus rides are among the occasions on which they encounter Pittsburgh speech. (On the discussion board Pollak and I (2016) studied, “YOTB” was used as shorthand for ‘Yinzer on the bus’, a Yinzer being a stereotypical Pittsburgher.)

The pre-recorded voice that announces stops on Pittsburgh buses pronounces the “Carnegie” in Carnegie Mellon University as [kə neɪˈ ɡi], with a syllabic [r] in the first syllable and the stress on the second syllable. This is the local pronunciation in Pittsburgh. It is the Scottish pronunciation, probably the way steel baron Andrew Carnegie pronounced his own name, and in fact possibly even the ‘correct’ pronunciation, as suggested in a video produced by the Carnegie Corporation of New York (2013). However, administrators at Carnegie Mellon University pronounce the institution’s name [kɑrˈ nə giˈ ɡi] Mellon, stressing the first syllable and reducing the second. This is a non-local pronunciation, the one used in New York for Carnegie Hall or The Carnegie Foundation. The university administrators appear to be oblivious to the local pronunciation. This may be in part because people in such positions do not ride the bus to work.

One more example of the role of lived experiences of mobility in the sociolinguistic world of a city comes from the work of Thomas D. Mitchell (2010). Mitchell’s research site was a Pittsburgh neighborhood called Beechview. A number of Hispanic immigrants had settled in Beechview, in part due to convenient public transportation linking it to places where there were jobs. Articles in the local press consistently suggested that the Latino/Latina population of Beechview was much larger (and hence much more threatening to long-time local residents) than census figures showed it actually was. Mitchell focused on the first of these newspaper articles, which was the basis for the exaggerated claims made in the others, and asked why reporter Diana Nelson Jones might have been led to misrepresent the size of the Latino community that she characterized as “taking hold” in the neighborhood.

Widely circulating discourses about Hispanic immigrants in the U.S. provided the reporter with ready-made metaphors for describing the situation in Beechview as a “flood” or an “invasion” (Santa Ana 2002), and she adopted these. Journalistic conventions may also have played a role, encouraging the reporter to describe the situation in Beechview as a conflict between two opposing sides, the immigrants and the long-time residents. But Mitchell (2010) suggests that, in addition, the linguistic landscape and soundscape of the neighborhood, as a newspaper reporter would have experienced them, also crucially shaped how she described the situation there.

While the number of Spanish-language signs (the conventional object of linguistic landscape research) in the Beechview business district was roughly
proportional to the Hispanic population (3.5% of the total), shops and a restaurant with Spanish names and Mexican-themed decorations represented almost one in five of the occupied storefronts, standing out even more against the large number of vacant storefronts in the area. There were two shops selling Hispanic foods within two blocks of each other, and a CD and DVD store blasted Latino music onto the street. Furthermore, 20% of the people Mitchell overheard in five days of standing in front of the main supermarket and walking along the street were speaking Spanish.

Thus a reporter experiencing the neighborhood on a short visit might well have been led to think there was a more substantial Latino population than there in fact was, simply because of the fact that Spanish was visible and audible in the ways it was. In other words, the reporter’s mobility to and in Beechview gave rise to an encounter with heterogeneity that highlighted the degree of difference between the Anglo and Hispanic communities in Beechview.

2.3 Circulation in the city: How change spreads

We have seen how urban mobility, in the context of urban heterogeneity, can lead to sociolinguistic encounters that might be missed in traditional sociolinguistic research based in cities. However, bumping up against each other is not sufficient to ensure that different ways of doing things will affect each other.

When and how sociolinguistic change spreads has always been a key concern of sociolinguists, and some of the important work in this area has been done in cities. Much of this work has focused on groups of people who belong to the same speech community (Labov 2001; Milroy and Milroy 1985) or community of practice (Eckert 2000), however, exploring how change diffuses from upper-class people to lower-class people or vice versa (Labov 2001), from people with looser social networks to people with denser, more multiplex ones (Milroy and Milroy 1985), or from more to less iconic community members (Eckert 2000). When we have thought about the mechanisms by which sociolinguistic practices circulate, variationists have typically privileged face-to-face interaction over, for example, the media.

Thinking about how different sub-populations of a city come into contact with each other forces us to broaden our focus. As I have tried to understand the history of Pittsburgh speech, I have returned repeatedly to the role of physical artifacts in the processes by which Pittsburghers came to speak the way they do, then became aware that they spoke that way, then started to celebrate speaking that way, at the same time as many of them stopped doing so. While face-to-face transmission may still be responsible for who has a local accent or has the kind of access to a local accent that allows them to perform it convincingly, material artifacts ranging from newspaper articles to dolls and jewelry have played a role in the coming-to-awareness that has led to both the celebration and the loss of the most
highly stigmatized features of the dialect, and to the kinds of change mentioned earlier in how Pittsburghese is imagined by older Pittsburghers versus newer ones. T-shirts and coffee mugs bearing lists of Pittsburghese words and their definitions came onto the scene in the 1960s and 1970s (Johnstone 2009). Figure 2 shows the back and front of a t-shirt of the sort that is typical of early representations of Pittsburghese.

Figure 2. Front (left) and back (right) of a Pittsburghese t-shirt

On the front of the shirt, ten words, in quotation marks, are linked with an image of downtown Pittsburgh, as if emanating from building windows. Not all of these represent linguistic features that are unique to the Pittsburgh area (arguably none do), but when this shirt was designed they were all thought, by many Pittsburghers, to be exclusively local. Of the ten items, five represent local phonology in the context of words linked specifically with Pittsburgh: *Jynt Igl* (‘Giant Eagle’) represents the merger of /ɪ/ and /n/ before /g/ in the name of a Pittsburgh-area grocery chain. *Ahia* (‘Ohio’) represents a casual-speech pronunciation in the name of a river that flows through the city. *Stillmill* (‘steel mill’) and *Stillers* (‘Steelers’) represent the merger of /ɪ/ and /l/ before /l/ in the word that refers to Pittsburgh’s once-major industry and its eponymous football team. *Sahside* (‘South Side’) represents /aw/-monophthongization and the assimilation of /θ/ to /s/ in the name of a Pittsburgh neighborhood. The caption, *Picksburgh* represents what was thought to be a local way of pronouncing the city’s name. The back of the shirt features a dictionary-like alphabetical list of 31 words and their definitions.

Other Pittsburghese artifacts of the period share elements of design and content with this one. They typically include many different words and phrases, often with definitions. Such artifacts serve to standardize what counts as Pittsburghese and
what it means to speak that way. Furthermore, the choice of items with which to represent local phonology skews towards items with local referents or evocative of local life. The visual design of the artifacts, the way items are defined when they are, and the example sentences used to illustrate their usage all further link the items, not only with Pittsburgh, but more specifically with working-class life in the 1950s and 1960s.

These representations of Pittsburghese are richly metapragmatic in Silverstein’s (1993) sense: They provide repeated and detailed information, both explicit and contextual, about how particular words, and the dialect as a whole, are meant to be understood. They are also highly standardized, with the same words and the same definitions, on many artifacts with similar designs.

Such representations of Pittsburghese are still available, if less evident than they once were. Pittsburghese shirts like the one described above can still be purchased, although the folk dictionary that was available for many years (McCool 1982) went out of print in 2015. However, younger people like the gentrifiers I discussed above are equally likely to encounter mediated representations of Pittsburghese that consist of single words in contexts that provide relatively little instruction about what their indexical value should be taken to be. Figure 3 shows two such artifacts, a t-shirt and a necklace.3

Figure 3. Newer Pittsburghese artifacts

The Yinz Run Like Jagoffs shirt was designed for sale at the 2014 Pittsburgh Marathon (Zackal 2014). The yinz necklace represents a type of artifact that is produced by a number of local jewelers and on offer at events such as the Maker’s Faire and the Handmade Arcade, where crafters in their 20s and 30s sell inexpensive handmade items. Neither artifact defines the Pittsburghese terms it includes (yinz and jagoffs).

While the t-shirt is orange and includes black type, a combination reminiscent of the ‘black and gold’ of Pittsburgh’s city crest, flag, and professional sports teams, it also includes white and grey, which do not conventionally index localness. The necklace also makes reference to the colors known as black and gold via metals of different shades, though less obviously.

Neither typeface evokes Pittsburgh in any conventional way (the way the typefaces on the logos of the football, baseball, or hockey teams might). The indexical meanings of Pittsburghe, when it is seen on artifacts like these, are potentially multiple and linked to the bodies on which the artifacts are worn. Further, the Pittsburghe words and phrases found on newer artifacts like these are drawn from a much smaller set than those on the older t-shirts. *Yinz* (‘you’, plural) figures often, as does *jagoff* (an epithet for an annoying idiot), along with *n’at* (‘and so on’, ‘and things like that’) and a small handful of other items. People who experience Pittsburghe on artifacts like these have a more limited Pittsburghe vocabulary than people who experience it on older artifacts, and the indexical value of Pittsburghe is more dependent on where and on whom (in the case of jewelry and other embodied artifacts) they experience these representations.

Artifacts like these, and the ideas and practices they bring with them, circulate among people in and outside of Pittsburgh in various ways. Some are used as gifts: people may send Pittsburghe t-shirts to relatives who have moved away or bring a Pittsburghe-themed bib or onesie to a baby shower as a gift. When people wear or display Pittsburghe artifacts themselves, the artifacts can serve a ‘badging’ function (Symes 1987; Kelly 2003), showing that one is an insider with the local knowledge needed to interpret the artifact.

It is crucial to note, however, that the linguistic norms and language ideologies that circulate via physical artifacts do not cross every boundary. Sometimes a Pittsburghe t-shirt or coffee mug will appear in an unexpected place or on an unexpected person, perhaps because it is simply serving the utilitarian function of covering the body or containing a drink. This can happen, for example, when Pittsburghe artifacts are purchased at charity shops or otherwise sold so cheaply that they are less expensive than a non-decorated item of the same kind. It is possible to find people in Pittsburgh who claim never to have heard of Pittsburghe, and I once encountered a group of parochial-school 12- and 13-year-olds who did not know how to interpret the kind of re-spelling that is central to how Pittsburghe artifacts work. Thinking about how language ideologies circulate in a city (as opposed to in a speech community) reminds us that some people are excluded from the kind of insiderness that is required in order to understand what is circulating.
3. Discussion

Popular discourse about cities often suggests that a city is a speech community, talking about *New York speech* or *New Orleans speech* as if everyone in a city oriented to the same norms and sounded the same way. However, cities are not speech communities, and I hope to have suggested here that cities are sociolinguistically interesting precisely because they are not speech communities. Cities are sites of contact – or not – among diverse ways of doing things. Encounters among various urban ways of being and talking can have surprising and interesting sociolinguistic consequences. We are not likely to notice them, however, unless we think about the sociolinguistic city as a whole.

References


Identity and mobility in linguistic change across the lifespan

The case of Swabian German

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Identity construction and mobility have been shown to influence dialect performance and play a critical role in language change (Blommaert 2014; Britain 2016; Coupland 2001; Johnstone 2011). To investigate the relative importance of identity and mobility and their role in language change, this paper presents the results of a 35-year panel study with 20 speakers of Swabian German. Twelve linguistic variables, six phonological and six morphosyntactic, reveal how identity and mobility influence speakers’ choice of dialect variants. The findings from the panel study, in comparison with an ongoing trend study, offer new understandings in dialect retention and attrition, revealing how ‘feeling Swabian’ and a ‘sense of place’ play a vital role in our understanding of dialect change across the lifespan.

Keywords: language variation, language change, panel studies, lifespan change, identity, mobility, dialect attrition, German dialects

1. Introduction

Concepts of identity, time, and place have long pitted dialectology and sociolinguistics at opposite ends of the methodological spectrum. Traditional dialectologists have concentrated on homogeneous groups of speakers – typically elderly, rural men who have spent their entire lives in a single location – as the ‘true’ dialect speakers. Sociolinguists have sought orderly heterogeneity with primarily urban speakers, and until recently, have paid little attention to factors such as individual orientation and geographic mobility. In recent years, educational, cultural, and demographic changes throughout the world, and particularly in Germany, have led to unprecedented dialect levelling (Auer 2005, 2018). However, as Britain (2009: 121) has claimed, dialect attrition “does not necessarily lead to an overall shift to the
standard language”. Smith and Durham (2012: 2) have shown that dialect shifts “may not indicate rapid dialect obsolescence *per se*, but merely reflect differing code choice” influenced by issues of time, identity, and place.

In sociolinguistic research, increasing focus is being placed on the role of the individual within the community in investigating language change. A growing body of work shows how identity construction and a sense of place influence dialect performance and hence play a vital role in our understanding of language variation and change (Sankoff, Wagner and Jensen 2012; MacKenzie and Sankoff 2010; Sankoff and Blondeau 2013; Bowie 2005, 2010). Recent research points to the role of ‘dialect identity’ – the “positioning as a user or non-user of the local dialect” (Johnstone 2016: 51) – and ‘place identity’ – the use of local/regional dialect forms in innovative and strategic ways (Coupland 2001) – as pivotal factors in dialect usage.

This paper brings together three opposing approaches in analysing the changing dialect situation in Swabia – traditional dialectology versus quantitative sociolinguistics, the role of the individual versus the role of community, and the influence of mobility versus sedentarism. With rising levels of education and increasing residential and workplace mobility over the last 35 years, the linguistic situation in southwestern Germany is undergoing profound change, providing an ideal opportunity to investigate the issues of time, identity, and place with respect to dialect attrition. The two questions this research seeks to address are: (1) is Swabian thriving or dying as a German dialect in the speech of individuals across their lifespan; and (2) how do notions of identity and mobility impact dialect attrition or retention across the lifetime of the individual?

2. Research background

Sociolinguistic research on language change has been firmly grounded by the *uniformitarian principle*, which claims that processes observed in the present can help with knowledge about those that occurred in the past (Lyell 1833). Labov (1966, 1974) introduced this principle into sociolinguistics with the apparent-time method and the “use of the present to explain the past”, and now, sixty years after his seminal work on Martha’s Vineyard (Labov 1963) and New York City (Labov 1966), longitudinal studies are common practice in variation sociolinguistics for investigating language change (e.g., Buchstaller 2015, 2016; Gregersen, Maegaard and Pharao 2009; Rickford and Price 2013; Sankoff and Blondeau 2007; Sankoff and Laberge 1978; Sankoff and Wagner 2006; Schilling-Estes 2005; Tagliamonte and D’Arcy 2009; Wagner and Sankoff 2011; Wagner 2012).

Two basic approaches to collecting and analysing real-time data have become prevalent: (1) *panel studies* follow a specific group of speakers and resample the
same people at different points in time; and, (2) trend studies examine different cross-sections of the population at different points in time. Both types of studies are critical to developing a full understanding of language change: trend studies are most suitable for determining language change within a community; whereas panel studies are indispensable for understanding language change at the individual level (Sankoff 2006). Sankoff (2006, 2019) defines three types of intra-speaker trajectories: (1) speaker stability, when speakers remain constant after early childhood while the community continues to change, (2) lifespan change, when speakers adapt their language use in the direction of the community-wide trend, and (3) retrograde change, when speakers move against the community-wide trend, away from innovative forms to more conservative ones. Sankoff (2006) maintains that speaker stability is the most common type of intra-speaker trajectory and that most studies indicate that apparent-time change mirrors real-time change.

Considerable trend study research has been conducted in situations of dialect contact and dialect levelling, “a process whereby differences between regional varieties are reduced, features which make varieties distinctive disappear, and new features emerge and are adopted by speakers over a wide geographical area” (Williams and Kerswill 1999: 149); however, there has been a paucity of research on the effects of dialect contact and levelling on intra-speaker change across the lifespan. Dialect levelling is generally caused by broad societal changes, such as industrialisation, urbanisation, agricultural development, and an expanding and more diverse workforce (Kerswill 2001), forces which become more prominent over the longer timespan of a trend study. Milroy (2002: 7) defines dialect levelling as “the eradication of socially or locally marked variants […] in conditions of social or geographical mobility and resultant dialect contact”. She found that dialect levelling is more common in urban populations in which people tend to have weaker social ties (Milroy 1987). Cheshire et al. (1999) pinpoint adolescents as driving the levelling process, as they adapt their speech to that of their peers rather than their parents. Studies such as these suggest that individual lifespan change is just as likely to be impacted by the evolving social environment as is community-wide change.

Trudgill (1986) maintains that dialect levelling can best be explained by accommodation theory (Giles, Bourhis and Taylor 1977), which suggests that when speakers of different dialects come into contact, convergence (or divergence) ensues.

When mutually intelligible, but distinct dialects of the same language come into contact, linguistic accommodation occurs. When this contact is long-term […], accommodation can become routinised and permanent through the process of koineisation, and a new dialect can emerge. (Britain and Trudgill 1999: 245)
Auer and Hinskens (2005: 356) claim that it is difficult to find evidence to indicate that interpersonal accommodation leads to levelling and community-wide change. They argue that

there is some evidence that interpersonal accommodation occurs, but [it] is better explained as accommodation towards a stereotypical persona or mental representation (model) of a social group than as accommodation to the actually co-present interlocutor. (ibid.: 343)

Auer (2005: 22) maintains that dialect contact and levelling create a diaglossic situation, one defined by “intermediate variants between [the] standard and (base) dialect”. These intermediate varieties are often referred to as regiolects or regional dialects, which are characterised by “non-discrete structures” (ibid.) such as a standard/dialect continuum. Auer maintains that, contrary to the Americas, where language change is normally endogenous, i.e., generated internally within the speech community, language change in Europe is typically exogeneous, i.e., created via external influences, such as dialect contact and levelling. Hence, Auer follows Mattheier (1996) in using the term advergence to describe the fact that, as a result of dialect contact, varieties in Europe typically “adverge” toward the standard language (Auer and Schwarz 2015). With the unrelenting advance of the standard language, driven by increasing education and greater geographic mobility, it is reasonable to assume that individuals across their lifespan will not remain stable, but rather will adapt and follow the community trend.

Two primary outcomes generally result from a dialect contact situation, either stable bidialectalism or dialect shift. In their study of bilingual children of ethnic minority and bidialectal communities in the Netherlands, Cornips and Hulk (2006: 355) found that bidialectalism has “increased so much that monolingual speakers of non-standard dialects have become the exception”. In Shetland, Scotland, Smith and Durham (2012: 57) suggest that the community is experiencing the emergence of a “pivotal generation in dialect obsolescence”, one “signalled by extreme linguistic heterogeneity across a group of historically homogeneous speakers (e.g., Dorian 1994)”. In the end, Britain (2009: 122) contends that dialect contact and dialect death are “inextricably linked”, yet the attrition process does not necessarily lead to a wholesale shift to the standard language. While some dialects are receding, new varieties are emerging, moulded by ever greater contact among speakers of different varieties on a regional, national and even global scale and accelerated by a multitude of social and economic developments that have brought speakers from more distinct varieties in closer contact than ever before (Britain 2009).

While dialect contact and levelling have been studied extensively, dialectologists and sociolinguists alike have systematically skirted the issue of geographic
mobility and its impact on language variation and change, and such research has been almost non-existent across the lifespan. In the past, linguists have been singularly focused on finding ‘authentic speakers’, the prototypical NORM (non-mobile, older, rural, male) informants, those born and raised exclusively in the region under study (Chambers and Trudgill 1998). In fact, speakers who have moved extensively in and out of the region, or even within the region under study, have been treated with suspicion (Chambers 2000). Britain (2002: 603) remarks that “given the historical origins of variationism in traditional dialectology, […] it is paradoxical that one of the social categories that has received least attention of all is space”. Indeed, as individuals move and come into increased contact with speakers of different varieties, they naturally accommodate their speech to their interlocutors throughout their lifetime. Auer (2013: 6) questions “whether the exclusive focus on stable settlements and immobile speakers has ever done justice to language and language change”. From the Great Migration to European colonial expansion to the age of industrialisation and urbanisation, the human race has always been highly mobile. At the turn of the century, only about 3% of the world population lived in cities. Today, as a result of industrialisation and urbanisation, more than half of the world’s population lives in urban areas, and this trend is expected to continue to increase to 62% by 2050 (United Nations 2019). Auer (2013: 7) asserts that “mobility has become such a central feature of human existence in the age of globalization that any kind of linguistics that is not able to address its effects will be in danger of falling out of step with reality” – both within the community and across the lifespan.

With ever-increasing globalisation, expanding immigration, and swelling numbers of commuters travelling from rural locations to urban centres for work, mobility and superdiversity (Vertovec 2007) have become part of everyday life. Blommaert (2010: xiv) argues for “a view of language as something intrinsically and perpetually mobile […]. The finality of language is mobility, not immobility”. Britain (2016) insists that researchers need to expand their theoretical lens to consider both ends of the mobility/immobility scale, incorporating a more nuanced view of paths in the middle, bearing in mind both highly peripatetic communities as well as exceptionally ‘nomadic’ individuals within stable communities.

In broadening their theoretical focus, many studies have also begun exploring the question of how individuals communicate a personal identity through their choice of language variants, which can serve as a precursor to linguistic change (Labov 1966; Silverstein 2003; Eckert and Wenger 2005; Bucholtz and Hall 2005; Coupland 2008). Tajfel (1978: 63) defines social identity as “that part of an individual’s self-concept which derives from his [sic] knowledge of his [sic] membership of a social group (or groups) together with the value and emotional significance attached to that membership”. Le Page and Tabouret-Keller (1985) use the term acts of identity to indicate that
the individual creates for himself [sic] the patterns of his [sic] linguistic behavior so as to resemble those of the groups with which from time to time he [sic] wishes to be identified or so as to be unlike those from whom he [sic] wishes to be distinguished. (ibid.: 181)

Similarly, Kiesling (1998: 95) stresses that “identity is a display, it must be understood in terms of social relationships, including potential social relationships a speaker chooses not to identify with”. Auer and Hinskens (2005: 356) echo Kiesling saying that a speaker’s identity, or orientation, is the best predictor of linguistic accommodation, specifically, “a strong attitudinal orientation towards the group with whom one wants to associate, or a strong attitudinal dissociation from those from whom one wants to dissociate”. For example, Wolfram and Schilling-Estes (2003: 732) report on Smith Island’s resistance to an on-going change because the traditional variant is highly valued and serves as a “marker of in-group identity”. Auer (2005) claims that a diaglossic situation with non-standard language varieties provides for unlimited intermediate forms, allowing users to act out, in the appropriate contexts, an identity which could not be symbolised through the base dialects (which may have rural, backwardish or non-educated connotations) nor through the national standard (which may smack of formality and unnaturalness and/or be unable to express regional affiliation). (ibid.: 28)

Thus, elements of identity construction and mobility have been shown to influence dialect levelling and play a critical role in language change across the community (Blommaert 2014; Britain 2016; Coupland 2001; Johnstone 2011). The current study attempts to unravel these influences and investigate the critical role that identity and mobility play in the trajectory of linguistic change across the individual lifespan.

3. Data and methods

This chapter reports on the results of a panel study investigating interspeaker stability and change across a 35-year time period in Swabian, or Schwäbisch, a High German dialect belonging to the Alemannic family, spoken by 800,000 people or 1% of the German population (see Figure 1). Swabian is spoken in southwestern Germany and has no non-Germanic dialect borders: it is bordered in the north by Franconian, in the east by Bavarian, in the west by Alemannic (or Badisch), and to the south by Swiss German.
3.1 Speech communities

Two communities in the central Swabian dialect area were selected for this research: the large urban metropolis of Stuttgart and its surrounding suburbs, and the mid-sized town of Schwäbisch Gmünd and its surrounding rural villages. Stuttgart is an international centre with over one million inhabitants and is home to many well-known global firms, such as Daimler, Porsche, Bosch, and Siemens. Schwäbisch Gmünd, with 60,000 inhabitants, lies 100 kilometres east of Stuttgart. It is a typical mid-sized German town, surrounded by small rural villages with 77% of the land dedicated to woodland and agriculture.

3.2 Swabian corpus

The data for this research are drawn from a corpus of 140 native Swabian speakers, 40 of whom were interviewed in 1982 as part of the principal investigator’s doctoral research. Thirty-five years later, in 2017, a follow-up study was initiated and an additional 100 native Swabian speakers were interviewed, including 20 speakers from 1982 who could be re-located and were willing to be re-interviewed. Thus, the Swabian corpus provides both a Panel Study component (with 20 speakers interviewed twice)

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and a Trend Study component (comprised of 100 speakers interviewed once). This paper reports on the results from 20 panel participants (each interviewed twice) with a focus on language variation and change across the individual lifespan.

All data were collected via Labovian-style sociolinguistic interviews (Labov 1984), conducted by native Swabian speakers, with the principal investigator present in the role of friend-of-a-friend (Milroy and Milroy 1985). In order to increase compatibility across the two recording periods, the same interview questions were asked in both years, covering questions about the speakers’ childhood, hobbies, neighbourhood, and attitudes towards the Swabian culture and language. All interviews were conducted in a casual setting, typically over coffee and cake in the speakers’ homes. The interviews have been supported by extensive ethnographic observations made by the principal investigator’s prolonged time living in the region, both in 1982 (in Stuttgart) and again between 2016 and 2020 (in Tübingen).

3.3 Transcription

The interviews were transcribed in ELAN (Wittenburg et al. 2006; Nagy and Meyerhoff 2015) by native German speakers, linguistics students at the University of Tübingen, following a well-documented set of transcription guidelines and using a standard orthography explicitly adapted for Swabian. All transcripts were verified by the principal investigator to ensure conventions were followed and to neutralise any potential transcriber bias. Transcripts were extracted from ELAN, and linguistic variables were automatically coded for a binary distinction between the dialect variant and the standard German variant based on a bespoke Swabian-German Lexicon (SGL) built from the corpus of Swabian interviews. The SGL is used as a tool to ensure that all tokens of a given variable in a transcript are located and properly coded (as “dialect” or “standard” variant), ensuring the principle of accountability (Labov 1972) is followed.

3.4 Dialect Density Index (DDI)

Modelled on the work of Wolfram and others (Van Hofwegen and Wolfram 2010; Oetting and McDonald 2002), a Dialect Density Index (DDI) was developed as the dependent variable to represent the concentration of dialect variants in each speaker’s repertoire. DDI is a token-based frequency measure that represents the total dialect variants as a percent of the total dialect features (i.e., linguistic variables). Twelve linguistic variables, six phonological and six morphosyntactic, were selected to expose the rich palette of features available to the Swabian speaker (see Table 1). A total of 50,875 tokens were extracted, 21,714 from 1982 and 29,161 from 2017, with an average 1,086 tokens per speaker in 1982 and 1,458 tokens per speaker in 2017.
Table 1. Linguistic variables under investigation

<table>
<thead>
<tr>
<th>Name</th>
<th>Swabian ~ Standard</th>
<th>Examples (Swabian orthography)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Phonological variables:

- Palatalisation: \[∫t\] ~ \[st\]  
  - da darfsch ja bloß hundertdreißig fahre in Italien

- MHG /i:/ Diphthong Shift \[ɔi\] ~ \[ar\]  
  - mà braucht da köi Fleisch dazu

- Nasalisation \[ã\] ~ \[a\]  
  - mä kà es mit em normale [Mehl] mache

- Unrounded Front Vowel \[ɛ\] ~ \[ø\]  
  - so gut wie meeglich probier es

- Unrounded Front Vowel \[iə\] ~ \[y\]  
  - dann ist d Kieche explodiert

- Long /e:/ Opening \[ɛː\] ~ \[eː\]  
  - gschwind nà Kanada gange, då e baar Jâhr ljäbe

Morphosyntactic variables:

- Verbal Plural Inflection \[əd\] ~ \[ən\]  
  - die finded es wichtig.

- Irregular Verb – gehen \[gangə\] ~ \[ge:ən\]  
  - willsch du an Telefon gange?

- Irregular Verb – haben \[hen\] ~ \[ha:ban\]  
  - mr hen e aldes Haus khet

- Swabian Affix – -le -le ~ -chen/-lein  
  - dass er en Mädle mâg un se ihn mâg

- Swabian Affix – ge- \[θ\] ~ \[ge\]  
  - un hen hier e Haus [ge]haut

- Periphrastic Subjunctive dääd ~ würde  
  - es dääd beeinflusse

Table 2. Swabian panel speaker demographics

<table>
<thead>
<tr>
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<td>0</td>
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<td>0</td>
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<td>3.6</td>
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<td>45</td>
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<td>4.4</td>
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<td>2.0</td>
<td>15</td>
<td>67</td>
</tr>
</tbody>
</table>
3.5 Extra-linguistic predictors

Five extra-linguistic factors are considered in this analysis: (1) two recording years (1982 and 2017), (2) two communities (Stuttgart and Schwäbisch Gmünd), (3) two speaker sexes (male and female), as self-reported via the demographic survey completed at the end of the interview, (4) orientation to Swabian, and (5) residential mobility (the latter two are explained further below). Most speakers are of the same age group (18–25 in 1982 and 53–60 in 2017) and socioeconomic status (middle class); four speakers, parents of the younger speakers, were in their early 50’s in 1982 and hence in their late 80’s in 2017. 14 of the 20 speakers completed their Abitur, the German college preparatory exam. Overall, the corpus represents a typical and fairly homogenous group of Swabian speakers. Table 2 provides a summary of the Swabian panel speaker sociodemographics.2

3.5.1 Swabian Orientation Index (SOI)

In order to operationalise the concept of ‘dialect identity’, a Swabian Orientation Index (SOI) was developed, modelled on Hoffman and Walker’s (2010) Ethnic Orientation, Sundgren’s (2009) Integration Index, and Sharma’s (2011) Diversity Index. Drawn from work in social psychology, SOI combines both objective or etic measurements with subjective or emic approaches to frame the notion of identity within the social context of the group under investigation (Mendoza-Denton 2002; Le Page and Tabouret-Keller 1985; Tajfel 1974). This perspective toward identity, or ‘local orientation’, measures speakers’ “perception of difference” by both insiders and outsiders, the extent to which speakers “share qualities or values”, the degree to which they “participate in shared activities” (Hoffman and Walker 2010: 40–41), and the extent to which they interact with other Swabians and with non-Swabians, i.e., interlocutor accommodation (Trudgill 1981; Auer and Hinskens 2005).

The SOI is derived from speakers’ responses to 16 questions asked in the interview covering their (1) allegiance and feelings about being Swabian, (2) attitudes towards the Swabian language, (3) knowledge of Swabian culture, people and icons, and (4) self-reported answers to whether they speak Swabian or standard German with family, friends, relatives, neighbours, teachers, colleagues, and others. Figure 2 presents a list of the 16 questions. The speakers’ responses to the questions were evaluated by the principal investigator on a five-point scale and averaged, creating an index from one for the lowest to five for the highest level of Swabian orientation (re-scaled to an index from 0.0 to 1.0 for multivariate analysis purposes). Validation of the index was performed through Principal Components Analysis (PCA) for each of the four subscales (Swabian allegiance, Swabian culture, Swabian language attitudes, and Swabian language usage). All subscales proved to be highly significant predictors of dialect versus standard language usage.

2. All names used are pseudonyms to protect the identities and confidentiality of the informants.
Swabian allegiance
1-1. Self-Declared Swabian: Are you a ‘real’ Swabian?
   5 = definitely, 4 = maybe, 3 = don’t know, 2 = not really, 1 = no
1-2. Non-Swabian Friends: Do you have friends who are NOT Swabian?
   5 = no, 4 = a few, 3 = don’t know, 2 = many, 1 = a lot
1-3. Swabian Ridicule: If yes, do they laugh at how you speak?
   5 = always, 4 = sometimes, 3 = don’t know, 2 = not really, 1 = not at all
1-4. Accommodation: If yes, do you change how you speak?
   5 = not at all, 4 = a little, 3 = don’t know, 2 = a lot, 1 = always

Swabian language attitudes
2-1. Opinion of Swabian Language: What do you think of the Swabian language?
   5 = super, 4 = good, 3 = don’t know, 2 = not good, 1 = awful
2-2. Job Prospects for Swabians: Is it difficult to find a job when you speak Swabian?
   5 = great, 4 = good, 3 = no impact/don’t know, 2 = maybe some, 1 = very difficult
2-3. Swabians Speaking German: Is it odd when a Swabian speaks standard German?
   5 = very odd/awful, 4 = funny, 3 = don’t know, 2 = good, 1 = great
2-4. Non-Swabians Speaking Swabian: Is it odd when a non-Swabian speaks Swabian?
   5 = very odd/awful, 4 = funny, 3 = don’t know, 2 = good, 1 = great

Swabian cultural competence
3-1. Swabian Knowledge: Are there different Swabian dialects?
   5 = considerable, 4 = some, 3 = don’t know, 2 = not much, 1 = none
3-2. Swabian Specialties: Do you know how to make Spätzle? Maultaschen?
   5 = of course, 4 = somewhat, 3 = don’t know, 2 = not well, 1 = not at all
3-3. Swabian People & Jokes: Do you know [various well-known Swabians]?
   5 = of course, 4 = somewhat, 3 = don’t know, 2 = not well, 1 = not at all
3-4. Swabian Activities: Do you participate in Hocketse and local activities?
   5 = always, 4 = some, 3 = don’t know, 2 = not much, 1 = never

Swabian language usage
4-1. Parents Speak Swabian: Do your parents speak Swabian?
   5 = both, 3 = one, 1 = neither
4-2. Friends & Family: Do you speak Swabian with …?
   5 = considerable, 4 = some, 3 = don’t know, 2 = not much, 1 = none
4-3. Neighbors (older & younger): Do you speak Swabian with …?
   5 = considerable, 4 = some, 3 = don’t know, 2 = not much, 1 = none
4-4. Others: Do you speak Swabian with …?
   5 = considerable, 4 = some, 3 = don’t know, 2 = not much, 1 = none

Figure 2. Swabian Orientation Index (SOI) questions
3.5.2  Swabian Mobility Index (SMI)

In order to assess the impact of mobility on Swabian usage, a Swabian Mobility Index (SMI) was developed to measure speakers’ degree of “sedentarism” or “nomadism” (Britain 2016) and their extent of regional or local “belonging” (Chambers 2000) and how it may have changed across their lifetimes. The SMI comprises two sub-scales: residential dispersion (represented by the Greek letter lambda \( \lambda \)) computes the number of moves a speaker has made over their lifetime, weighted by the number of years spent in each location; residential distance (represented by the Greek letter delta \( \delta \)) calculates the geographic distance (in kilometers) from the speaker’s birthplace to each city lived in, weighted by the number of years in each location and converted to logarithms to reduce skewness for those who have moved long distances. The SMI is the average of these two scores (re-scaled to an index from 0.0 to 1.0 for multivariate analysis). Figure 3 shows the formulae.

\[
\begin{align*}
\text{Residential Dispersion:} & \quad \lambda = 100 \times \left(1 - \sum_{i=1}^{n} \sqrt{y_i}\right) \\
\text{Residential Distance:} & \quad \delta = \frac{100 \times \sum_{i=1}^{n} \log(1 + d \times y_i)}{n} \\
\text{Swabian Mobility Index (SMI):} & \quad SMI = \frac{\lambda + \delta}{2}
\end{align*}
\]

where:
- \( n \) = total number of years lived (speaker age)
- \( d \) = residence (city) distance from birthplace (city)
- \( y \) = years living in a residence (city)
- \( i \) = number of moves (residences lived in)

Figure 3. Swabian Mobility Index (SMI) formulae

For example, in the first recording in 1982, Angela was 18 years old. The family had never moved, and at that point in her life she had never lived away from home, giving her an SMI of 0. By 2017, she had lived in nine different locations, both within and outside of Swabia (see Table 3).

Based on the formulae in Figure 3, Angela’s Residential Dispersion Index is 79 and her Residential Distance Index is 89, giving her an SMI of 84 in 2017. In contrast, Angela’s brother Rupert had a SMI of 39 in 1982 (he was 24 at the time and had moved 150 kilometers away for school) and a SMI of 52 in 2017 (he was 58 years old and 25 years of his life has been in the same location, although not his birthplace). The SMI provides a useful heuristic for measuring speakers’ changing degrees of “nomadism” and “sedentarism” (Britain 2016) across their lifetimes and more accurately reflects the real-life mobility of the modern Swabian speaker.
Table 3. Angela’s residential dispersion and distance values

<table>
<thead>
<tr>
<th>Residence (city)</th>
<th>Years in location</th>
<th>km from birthplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birthplace</td>
<td>Schwäbisch Gmünd</td>
<td>–</td>
</tr>
<tr>
<td>Residence 1</td>
<td>Schwäbisch Gmünd</td>
<td>19</td>
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<tr>
<td>Residence 2</td>
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<td>2</td>
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<tr>
<td>Residence 3</td>
<td>Mannheim</td>
<td>2</td>
</tr>
<tr>
<td>Residence 4</td>
<td>Mannheim/Hohensachsen</td>
<td>2</td>
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<tr>
<td>Residence 5</td>
<td>Mannheim</td>
<td>4</td>
</tr>
<tr>
<td>Residence 6</td>
<td>Deggendorf</td>
<td>3</td>
</tr>
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</table>

3.6 Statistical methods

Token counts for each variable were calculated in R for statistical analysis. Multivariate analyses were conducted using generalised linear regression mixed modelling (\textit{glmer} function in the R package \textit{lme4}, version 1.1-21) to evaluate the relative effect of each factor when multiple factors are concurrently in play. Interviewer name and speaker ID were incorporated as random effects to handle interspeaker variability and to neutralise potential interviewer bias. Estimates were calculated using the \textit{predict} function (R package \textit{stats}, version 3.5.3), which develops the best possible prediction for the probability of speaking dialect, combining both fixed and random effects. Multivariate logistic regression models allow for the examination of combinations of factors and the identification of which have the greatest effect on individual change across speakers’ lifespans.

3.7 Interviewer effect

A critical aspect of this Swabian corpus concerns the Interviewer Effect. Due to the nature of panel studies, different interviewers are often involved, particularly in this situation, with two sets of interviews separated by 35 years. Hence, to some extent, the differences in dialect usage between the years may be a result of the gap effect, which could be an artefact of the long timespan between the two interviews and the lack of familiarity between the speakers and the interviewer in the second interview (Cukor-Avila and Bailey 2018: 205). It is worth noting that in 1982, the speakers

and interviewers in each community were a tight-knit group of friends and family, all living within close proximity to one another; by 2017, they had moved, married, changed jobs, and grown apart to such an extent that many had even lost contact with one another. Even family members who were formerly close had dispersed to such a degree that regular contact had become quite limited.

Thus, several tests were developed to assess the impact of different interviewers across the years on speakers’ dialect density. The first test, interviewer closeness, evaluated whether the interviewer and the speaker were previously acquainted with one another or not (within the same recording period); however, no statistically significant difference in dialect usage based on prior acquaintance was found. Nevertheless, to ensure that any potential bias based on different interviewers was neutralised, interviewer name was incorporated as a random effect in the mixed modelling. Second, interviewer same sex was evaluated to determine whether there were differences between speakers and interviewers of the same sex or different sexes. In 1982, a statistically significant difference was found: there was 15.3% greater probability of speaking dialect with an interviewer of the same sex in 1982, an effect that was not detected in the 2017 interviews. Hence, to account for this effect, interviewer same sex was incorporated into the model as a fixed effect. Finally, no differences were found between interviewers and speakers from the same generation or from different generations, so this factor was eliminated.

4. Analyses and results

The analyses and results of the Swabian panel study are organised into four sections: (1) individual lifespan change in dialect density across the 35-year timeframe of this study, (2) influence of extra-linguistic factors (i.e., speaker sex, community, Swabian orientation, mobility) on speakers’ dialect density over the years, (3) differences in the twelve linguistic variables across time and in the two different communities, and (4) different types of individual speaker change over their lifespans. Finally, some ethnographic observations are brought to bear to aid in the interpretation of the findings.

4.1 Dialect density across the lifespan

The first step in investigating the changes in Swabian usage across the 35-year timespan of this study is to look at changes in the Dialect Density Index (DDI). The average DDI for the 20 panel speakers in 1982 was 43% \((n = 12,714)\), dropping in 2017 to 27% \((n = 29,161)\), an overall decrease of 16% over the 35-year timeframe of
this investigation. Preliminary findings from the Swabian trend study show an even greater decline in dialect density across five generations, from 50–56% (Stuttgart – Schwäbisch Gmünd, respectively) with the oldest generation in 1982 to 13–23% (Stuttgart – Schwäbisch Gmünd, respectively) with the youngest speakers in 2017, a 37–33% (Stuttgart – Schwäbisch Gmünd, respectively) decline in dialect usage over the 35-year timespan. The results of the trend study provide evidence that the changes in dialect density among the 20 panel speakers are the result of individual communal change, in which both the individual and community are changing, and are not due to age-grading, in which only the individual is changing in accordance with “patterns appropriate to their age status” (Sankoff 2019: 199).

Figure 4 plots the 20 panel speakers based on their DDI in each of the two years. The horizontal axis plots principal components 1 (PC1) (using prcomp function in R package stats, version 3.5.3) for the six phonological variables, and the vertical axis plots PC1 for the six morphosyntactic variables. The first principal component accounts for 69% of the variability for the phonological variables and 78% of the variability of morphosyntactic variables. The upper right corner approximates 100% usage of the twelve dialect variants, while the lower left corner verges toward 100% usage of standard German variants. The blue crosses represent each speaker’s dialect density in 1982, and green dots indicate their dialect density in 2017. The dialect attrition can be seen by the left and downward trajectory of the points (i.e., crosses (1982) moving to dots (2017)). The points for the 12 variables move more toward the left than downward, indicating a greater loss of morphosyntactic dialect variants than phonological ones. The general pattern is one of dialect attrition over the lifespans for most speakers (details about the individual speakers are discussed below). There are, however, two speakers who show retrograde movement: Louise uses more phonological dialect variants and Siegfried more morphological dialect variants in 2017 than they did in 1982, a point I return to in the following sections.

The three ellipses in Figure 4, drawn to show two standard deviations from the mean of the group, highlight three groups of speakers. The upper ellipse surrounds the speakers from Schwäbisch Gmünd in 1982. Its small, compact nature signifies there was considerable homogeneity among the speakers of Schwäbisch Gmünd – a tight-knit community in 1982 – at least with regards to the use of these twelve dialect variants. The middle ellipse encircles all speakers in 1982, and the largest ellipse encloses all the speakers in 2017. This large ellipse reveals that the Swabian dialect has become considerably more diverse in 2017 than it was in 1982, and there is no longer a clear demarcation between Schwäbisch Gmünd and Stuttgart. These results are consistent with other research showing impending dialect obsolescence in situations of vast linguistic heterogeneity in communities that were historically
homogeneous (Dorian 1994; Smith and Durham 2012). However, as shown in the following sections, individual details can be obscured when looking solely at group averages: in fact, as shown below, there are important individual differences across the lifespans of certain speakers, modulated by the extralinguistic factors of identity and mobility.

4.2 Extralinguistic constraints on dialect density

Table 4 reports the results of the multivariate analysis of DDI (the dependent variable) based on the five extra-linguistic factors under investigation (the independent variables). Table 4a presents the results for the five main effects: recording year, Swabian orientation, and speaker mobility are highly significant at the .001 level; community is significant at the .05 level, and speaker sex is verging on significant. However, the univariate results do not convey the full picture. As Table 4b through 4f show, there are critical interaction effects among these factors which reveal a more nuanced picture of what is happening with the dialect in Swabia. Each of these is discussed in turn.
Table 4. Mixed effects model showing the influence of social factors on dialect density

Table 4a. Univariate main effects

<table>
<thead>
<tr>
<th>Factors</th>
<th>Spkrs</th>
<th>Weight</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>20</td>
<td>.599</td>
<td>−0.3240</td>
<td>42.0%</td>
<td>−14.7%</td>
<td>***</td>
</tr>
<tr>
<td>2017</td>
<td>20</td>
<td>.401</td>
<td>−0.9798</td>
<td>27.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lowest (2.0)</td>
<td>18</td>
<td>.381</td>
<td>−1.1189</td>
<td>24.6%</td>
<td>18.0%</td>
<td>***</td>
</tr>
<tr>
<td>highest (4.8)</td>
<td>22</td>
<td>.619</td>
<td>−0.2979</td>
<td>42.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lowest (1.0)</td>
<td>30</td>
<td>.585</td>
<td>−0.4745</td>
<td>38.4%</td>
<td>−15.3%</td>
<td>***</td>
</tr>
<tr>
<td>highest (4.1)</td>
<td>10</td>
<td>.415</td>
<td>−1.2037</td>
<td>23.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>22</td>
<td>.458</td>
<td>−0.8281</td>
<td>30.4%</td>
<td>8.6%</td>
<td>.</td>
</tr>
<tr>
<td>Women</td>
<td>18</td>
<td>.542</td>
<td>−0.4462</td>
<td>39.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gmünd</td>
<td>26</td>
<td>.538</td>
<td>−0.3796</td>
<td>40.6%</td>
<td>−16.9%</td>
<td>*</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>14</td>
<td>.462</td>
<td>−1.1702</td>
<td>23.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4b. Interaction effects: Year + Sex

<table>
<thead>
<tr>
<th>Year</th>
<th>Speaker Sex</th>
<th>Spkrs</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Men</td>
<td>11</td>
<td>−0.3459</td>
<td>41.4%</td>
<td>5.5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>9</td>
<td>−0.1234</td>
<td>46.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Men</td>
<td>11</td>
<td>−1.3653</td>
<td>20.3%</td>
<td>7.3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>9</td>
<td>−0.9641</td>
<td>27.6%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4c. Interaction effects: Year + Sex + Orientation

<table>
<thead>
<tr>
<th>Year</th>
<th>Sex</th>
<th>Orientation</th>
<th>Spkrs</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Men</td>
<td>Low (mean 3.5)</td>
<td>4</td>
<td>−0.6158</td>
<td>35.1%</td>
<td>10.2%</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.2)</td>
<td>7</td>
<td>−0.1917</td>
<td>45.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>Low (mean 3.5)</td>
<td>3</td>
<td>−0.2522</td>
<td>43.7%</td>
<td>4.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.2)</td>
<td>6</td>
<td>−0.0590</td>
<td>48.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Men</td>
<td>Low (mean 3.0)</td>
<td>7</td>
<td>−1.7768</td>
<td>14.5%</td>
<td>19.9%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.2)</td>
<td>4</td>
<td>−0.6450</td>
<td>34.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>Low (mean 3.1)</td>
<td>4</td>
<td>−1.3245</td>
<td>21.0%</td>
<td>12.7%</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.2)</td>
<td>5</td>
<td>−0.6757</td>
<td>33.7%</td>
<td></td>
<td></td>
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</tbody>
</table>
Table 4d. Interaction effects: Year + Community

<table>
<thead>
<tr>
<th>Year</th>
<th>Community</th>
<th>Spkrs</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Gmünd</td>
<td>13</td>
<td>−0.1917</td>
<td>45.2%</td>
<td>3.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>7</td>
<td>−0.3462</td>
<td>41.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Gmünd</td>
<td>13</td>
<td>−0.8520</td>
<td>29.9%</td>
<td>15.8%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>7</td>
<td>−1.8027</td>
<td>14.2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4e. Interaction effects: Year + Community + Orientation

<table>
<thead>
<tr>
<th>Year</th>
<th>Community</th>
<th>Orientation</th>
<th>Spkrs</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Gmünd</td>
<td>Low (mean 3.6)</td>
<td>2</td>
<td>−0.1446</td>
<td>47.4%</td>
<td>2.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.2)</td>
<td>11</td>
<td>−0.2002</td>
<td>45.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>Low (mean 3.5)</td>
<td>5</td>
<td>−0.5861</td>
<td>35.8%</td>
<td>−20.6%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.1)</td>
<td>2</td>
<td>0.2536</td>
<td>56.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Gmünd</td>
<td>Low (mean 3.2)</td>
<td>6</td>
<td>−1.0599</td>
<td>25.7%</td>
<td>−8.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.3)</td>
<td>7</td>
<td>−0.6738</td>
<td>33.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>Low (mean 2.8)</td>
<td>5</td>
<td>−2.2753</td>
<td>9.3%</td>
<td>−25.6%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 4.0)</td>
<td>2</td>
<td>−0.6211</td>
<td>35.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4f. Interaction effects: Year + Sex + Mobility

<table>
<thead>
<tr>
<th>Year</th>
<th>Sex</th>
<th>Mobility</th>
<th>Spkrs</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Men</td>
<td></td>
<td>11</td>
<td>−0.3459</td>
<td>41.4%</td>
<td>−5.5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td></td>
<td>9</td>
<td>−0.1234</td>
<td>46.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Men</td>
<td>Low (mean 2.1)</td>
<td>5</td>
<td>−1.2907</td>
<td>21.6%</td>
<td>−2.2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 3.5)</td>
<td>6</td>
<td>−1.4274</td>
<td>19.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>Low (mean 1.7)</td>
<td>5</td>
<td>−0.7078</td>
<td>33.0%</td>
<td>−11.3%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (mean 3.5)</td>
<td>4</td>
<td>−1.2844</td>
<td>21.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
Significance levels: ***0.001; **0.01; *0.05; .0.1
n = 20 speakers; 40 recordings; 12 variables; 50,875 tokens
Weight calculated using sum contrasts as opposed to treatment contrasts

4.2.1 Community and Swabian orientation
As seen in Figure 4, there are notable differences in dialect density between the two communities. Table 4d verifies that, in 1982, the two communities were more similar in their levels of dialect density, 41.4% for Stuttgart and 45.2% in Schwäbisch Gmünd, only a 3.8% difference. However, by 2017, a significant difference between the two communities has developed, revealing Stuttgart to have a lower probability of dialect usage, 14.2%, versus Schwäbisch Gmünd, 29.9%. While dialect usage has
receded in both communities, there has been a larger decline in the large urban centre of Stuttgart (27.2% decline) than in the semi-rural community of Schwäbisch Gmünd (15.3% decline).

Table 4e shows the three-way interaction with recording year, community, and Swabian orientation, signaling the critical role that Swabian orientation has come to play in dialect retention: speakers in Stuttgart with high orientation toward Swabian are more likely to speak dialect (56.3% in 1982 and 35.0% in 2017), whereas in Schwäbisch Gmünd orientation plays no significant role across the years. It is interesting to note that Swabian orientation may be beginning to emerge as a significant indicator in Schwäbisch Gmünd, showing an 8.0% difference between high and low orientation in 2017, bordering on significant at the $p > .10$ level. It appears that role of Swabian orientation is intensifying as a crucial indicator of dialect loss or retention across the lifespan of a speaker.

4.2.2 Speaker sex and Swabian orientation

Table 4b shows the interaction effects between recording year and speaker sex. While there is a large drop in dialect usage (from 41–47% (men – women) in 1982 to 20–28% (men – women) in 2017), the difference between men and women speaking dialect is not statistically significant (5.5% difference in 1982 and 7.3% difference in 2017). Table 4c presents the three-way interaction effects between recording year, speaker sex, and Swabian orientation. In 1982, there was no significant difference in speakers’ tendency to speak dialect based on their Swabian orientation scores (10.2% difference for the men (bordering on significance) and 4.8% difference for the women). However, by 2017, a distinct gender-difference had developed: men with low orientation scores are only 14.5% likely to speak dialect and women only 21.0%; yet for those with high orientation scores in 2017, the probability of men and women speaking dialect is roughly the same, 34.4% and 33.7% respectively. It appears that women’s propensity to speak dialect is less influenced by their Swabian orientation, while for the men, this factor has a more powerful effect.

Figure 5 depicts the predicted probabilities of the panel speakers in speaking dialect across the two recording periods. The two solid diagonal lines show the predicted relationship between dialect density and Swabian orientation for the men, indicating a strong positive correlation between dialect usage and Swabian orientation across the years. The men appear to follow the expected linguistic pattern across their lifespans. The two dashed diagonal lines show the predicted relationship between dialect density and Swabian orientation for the women. In 1982, the predicted relationship shows only a slight positive correlation, and by 2017, a negative correlation has emerged. By 2017, Swabian orientation had become a decisive indicator in speaking dialect for the men, but not for the women: the women
seem to retain more of their dialect despite their orientation scores. While it may be simplistic to consider a binary categorisation for speaker gender (Eckert 1989: 246–247), nonetheless, there is a clear distinction here that calls out for interpretation.

Why would men and women react differently across the 35 years covered by this study? How have the ways in which sex and gender are shaped in Swabia – and in German society at large – changed, and what ideological associations concerning male-female roles might be at play as speakers continue to construct social meaning through their use of dialect? It appears a gender effect may be at play in how differently men and women respond to indices of orientation and mobility. In Germany in the 1950’s and 1960’s, women were typically housewives. The change for women to move outside of the home into the working world started later in Germany than it did in the English-speaking world (Grunow, Hofmeister and Buchholz 2006). The following section on Swabian mobility sheds some light on these issues.

4.2.3 Speaker sex and geographic mobility

Another piece of the puzzle influencing the (in)stability of Swabian dialect use across the lifespan is mobility. The assumption is that the more mobile individuals are, the less likely they are to speak dialect – a phenomenon that arises from processes of accommodation through greater contact with speakers of different
varieties. It is important to note that, in 1982, most of the speakers were students at the time living at home or attending local universities, and hence their mobility was quite low. The four older speakers were also non-mobile in 1982, never having moved beyond their hometown throughout their lifetimes. As previously noted, the world in 2017 has become considerably more mobile, demonstrating that the 1982 non-mobile speakers (cf. ‘NORMs’) truly are artefacts of their time.

Table 4f shows that the overall probability of speaking dialect in 1982 was 41.4% for the men and 46.9% for the women, a non-significant difference and with no distinction based on mobility. However, by 2017, mobility had become a significant factor, yet only for the women: women with high mobility have an 11.3% lower probability of speaking dialect than those with low mobility; while for the men, use of dialect for those with high and low mobility scores shows no significant difference (−2.2%). Interestingly, Table 4f reveals that women with high mobility converge toward the men in their dialect usage: high mobility women show a 21.7% probability of speaking dialect in comparison to 21.6% for low mobility men and 19.4% for high mobility men.

These findings suggest some crucial insights into the changes in German society over the last 35 years. While traditionally it has been the men who travelled more and further for work, as women take on similar responsibilities outside the home, their dialect usage follows suit. Extra-linguistic factors, in this case life-changing events for women (such as moves due to a new job, marriage, divorce), can impact speaker’s linguistic repertoire throughout their lifetime. These results signal that speakers are susceptible to the changing cultural and linguistic norms of their environment, adapting their repertoires appropriately throughout their lifetime and demonstrating that linguistic repertoires are indeed quite malleable across the lifespan of an individual.

4.3 Change in linguistic variables

This section concerns the analysis of the individual linguistic variables investigated in this study. As Tables 5a and 5b show, all variables show significant attrition across the two time periods. Except for the two affixes (-lein/-le and ge/-0), the morphosyntactic variables have receded significantly more than the phonological ones. These findings support the general assumption that morphological variables are more salient and more highly stigmatised and hence recede more rapidly than phonological ones, although further research needs to be conducted to verify this position.

Tables 5c and 5d present the individual variables by community. Except for -st/-ft, all variables show a significant distinction between Stuttgart and Schwäbisch
Gmünd. Palatalization of coda-final -st is a feature of the larger Alemannic family and is not unique to Swabian, which is a likely factor in why it patterns differently (see Beaman 2020). For all variables, speakers from Stuttgart have lost more of their dialect variants that those from Schwäbisch Gmünd. This finding is as expected, considering the highly mobile, international metropolis of Stuttgart (cf. Milroy and Milroy’s (1985) ‘weak ties’) versus the mid-sized town of Schwäbisch Gmünd and its rural surroundings (cf. Milroy and Milroy’s (1985) ‘strong ties’).

Table 5. Linguistic variables by year and community

Table 5a. Interaction effects: Year + Phonological variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Year</th>
<th>n</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>st ~ ſt</td>
<td>1982</td>
<td>4761</td>
<td>1.0209</td>
<td>73.5%</td>
<td>−14.8%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>5716</td>
<td>0.3531</td>
<td>58.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at ~ øt</td>
<td>1982</td>
<td>3914</td>
<td>−1.5848</td>
<td>17.0%</td>
<td>−9.2%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>4975</td>
<td>−2.4723</td>
<td>7.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>an ~ åå</td>
<td>1982</td>
<td>2717</td>
<td>−0.3574</td>
<td>41.2%</td>
<td>−16.6%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>3027</td>
<td>−1.1245</td>
<td>24.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ø ~ e</td>
<td>1982</td>
<td>1365</td>
<td>−1.0740</td>
<td>25.5%</td>
<td>−13.1%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>1401</td>
<td>−1.9615</td>
<td>12.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>y ~ ia</td>
<td>1982</td>
<td>1747</td>
<td>−0.7085</td>
<td>33.0%</td>
<td>−15.6%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>2692</td>
<td>−1.5589</td>
<td>17.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e ~ ae</td>
<td>1982</td>
<td>1827</td>
<td>−0.7873</td>
<td>31.3%</td>
<td>−10.9%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>3291</td>
<td>−1.3648</td>
<td>20.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5b. Interaction effects Year + Morphosyntactic variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Year</th>
<th>n</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>an ~ ad</td>
<td>1982</td>
<td>628</td>
<td>3.3772</td>
<td>96.7%</td>
<td>−37.3%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>954</td>
<td>0.3800</td>
<td>59.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gehn ~ gancha</td>
<td>1982</td>
<td>266</td>
<td>0.7516</td>
<td>68.0%</td>
<td>−51.4%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>418</td>
<td>−1.6163</td>
<td>16.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>habn ~ hen</td>
<td>1982</td>
<td>1022</td>
<td>0.2948</td>
<td>57.3%</td>
<td>−35.5%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>1843</td>
<td>−1.2758</td>
<td>21.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lein ~ lã</td>
<td>1982</td>
<td>1707</td>
<td>−1.1095</td>
<td>24.8%</td>
<td>−12.9%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>2277</td>
<td>−1.9970</td>
<td>12.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gab ~ ð</td>
<td>1982</td>
<td>1638</td>
<td>−1.2181</td>
<td>22.8%</td>
<td>−11.1%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>2386</td>
<td>−2.0182</td>
<td>11.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>werden ~ tun</td>
<td>1982</td>
<td>122</td>
<td>0.7723</td>
<td>68.4%</td>
<td>−31.1%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>181</td>
<td>−0.5178</td>
<td>37.3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Identity and mobility in linguistic change across the lifespan

Table 5c. Interaction effects: Community + Phonological variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Community</th>
<th>n</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>st ~ śt</td>
<td>Gmünd</td>
<td>6415</td>
<td>0.8329</td>
<td>69.7%</td>
<td>−9.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>4062</td>
<td>0.4161</td>
<td>60.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at ~ ぁt</td>
<td>Gmünd</td>
<td>5322</td>
<td>−1.2541</td>
<td>22.2%</td>
<td>−19.2%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>3567</td>
<td>−3.4668</td>
<td>3.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>an ~ àa</td>
<td>Gmünd</td>
<td>3564</td>
<td>−0.4841</td>
<td>38.1%</td>
<td>−15.3%</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>2180</td>
<td>−1.2180</td>
<td>22.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ø ~ e</td>
<td>Gmünd</td>
<td>1775</td>
<td>−0.8380</td>
<td>30.2%</td>
<td>−24.4%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>991</td>
<td>−2.7801</td>
<td>5.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>y ~ ɪə</td>
<td>Gmünd</td>
<td>2809</td>
<td>−0.6474</td>
<td>34.4%</td>
<td>−22.8%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>1630</td>
<td>−2.0369</td>
<td>11.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e ~ æ</td>
<td>Gmünd</td>
<td>2853</td>
<td>0.8315</td>
<td>30.3%</td>
<td>−12.5%</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>2265</td>
<td>−1.5302</td>
<td>17.8%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5d. Interaction effects Community + Morphosyntactic variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Community</th>
<th>n</th>
<th>Lodds</th>
<th>Prob</th>
<th>Diff</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>aŋ ~ ɑd</td>
<td>Gmünd</td>
<td>878</td>
<td>2.7296</td>
<td>93.9%</td>
<td>−36.5%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>704</td>
<td>0.2982</td>
<td>57.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gehn ~ ɡaŋ</td>
<td>Gmünd</td>
<td>429</td>
<td>0.9317</td>
<td>71.7%</td>
<td>−66.8%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>255</td>
<td>−2.9655</td>
<td>4.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>habn ~ ɛn</td>
<td>Gmünd</td>
<td>1657</td>
<td>0.0848</td>
<td>52.1%</td>
<td>−34.7%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>1208</td>
<td>−1.5590</td>
<td>17.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lein ~ ɫa</td>
<td>Gmünd</td>
<td>2423</td>
<td>−1.2930</td>
<td>21.5%</td>
<td>−10.0%</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>1561</td>
<td>−2.0367</td>
<td>11.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gə ~ ɸ</td>
<td>Gmünd</td>
<td>2564</td>
<td>−1.2923</td>
<td>21.6%</td>
<td>−11.8%</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>1460</td>
<td>−2.2233</td>
<td>9.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>werden ~ tun</td>
<td>Gmünd</td>
<td>220</td>
<td>1.5283</td>
<td>82.2%</td>
<td>−74.4%</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Stuttgart</td>
<td>83</td>
<td>−2.4746</td>
<td>7.8%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Two variables have dropped off drastically in Stuttgart, namely *gange* ‘go’ (66.8% decline) and *tun* ‘to do’ for the periphrastic subjunctive (74.4% decline), perhaps signalling a higher level of social stigma for these highly salient grammatical variables (Prichard and Tamminga 2012; Buchstaller 2016). As is apparent, there is extensive dialect levelling occurring in Swabia, particularly Stuttgart. This finding corroborates other considerable research that has documented a levelling of local dialects and the emergence of regional standard dialects or *regiolects*, particularly across Europe (e.g., Auer 2005; Ghyselen 2016; Hernández-Campoy and Villena-Ponsoda 2009; Hinskens 2007; Schmidt 2011).
Figure 6 depicts the change in each of the twelve variables by community and year. The variables pattern into two groups, labelled Lect1 and Lect2, sorted from the highest frequency of occurrence in 1982 to the lowest. The six variables in Lect1 all move in the same direction with similar degrees of attrition across the years. For the six variables in Lect2, however, there are stark differences between the two communities. The plural inflection -ed and the use of tun ‘to do’ for the subjunctive have drastically dropped off in Stuttgart, while in Schwäbisch Gmünd they follow a similar pattern to those on the left. Attrition of the two irregular verbs also differs between the two communities: the verb gange ‘go’ is more prominent in Schwäbisch Gmünd, whereas use of hen ‘to have’ is more prominent in Stuttgart. For many of these variables, it appears that Schwäbisch Gmünd is becoming more like Stuttgart in its frequency of dialect variants.

![Figure 6](image_url)

**Figure 6.** Change in linguistic variables across the years

### 4.4 Types of individual speaker change

This section turns to the different types of individual change across the lifespan. Wagner (2012: 179) points out that, in a panel study, “individuals continue to present an especially intractable problem, namely, their individuality”. Naturally, speakers have varying life experiences and develop disparate attitudes and priorities over the course of their lifetimes. The effect of this individuality for the 20 Swabian panel speakers can be seen in Figure 7, which depicts each speaker’s change in dialect density across their 35-year lifespan (Table 6 provides detailed statistics for each speaker). Speakers’ probability of speaking dialect in 2017 is shown in blue and
their dialect attrition since 1982 in green. Retrograde change, speakers using more dialect variants in 2017 than in 1982, is depicted in orange.

The panel speakers fall into Sankoff’s (2006, 2018, 2019) three types of lifespan trajectory: two speakers show retrograde change, three reflect speaker stability, and 15 speakers (75% of the panel participants) exhibit lifespan change. While most panel studies have shown a greater number of stable speakers (Sankoff 2018), the individuals in the current study are living through a time of considerable change. Since 1982, extensive social upheaval brought about by greater geographic mobility, higher levels of immigration, and increased focus on advanced education, has resulted in widespread dialect attrition across Swabia, indeed throughout all of Germany and much of Europe (Auer 2005). Ten of the 15 speakers exhibiting lifespan change have exceeded the education levels of their parents. Of the six speakers who have changed the most across their lifespans, three are teachers (Egbert, Theo, Ricarda), one is a radio announcer (Helmut), and two are highly mobile business executives (Rupert and Markus). As other studies have shown, occupation establishes ‘socio-economic situatedness’ which is highly diagnostic of speaker (in)stability (Buchstaller 2016; Levon and Buchstaller 2015; Silverstein 1998). Likewise, higher education brings greater social awareness of external linguistic norms, promoting “correction” to the standard (Prichard and Tamminga 2012). While the three stable panel speakers (Berdine, Jurgen, and Angela) have also achieved advanced educational degrees, they also retained high levels of Swabian orientation, revealing the prevailing force that “dialect identity” and indexicalities of social meaning have on individual linguistic choices (Johnstone and Kiesling 2008; Silverstein 2003; Eckert 2008; Moore and Carter 2015).

Two speakers, Louise and Siegfried, exhibit retrograde change, speaking more dialect in 2017 than they did in 1982. In 1982, Louise was in her 50’s and at the peak of her career. During the interview, she talked about her difficulties with being different than her colleagues, which led her to revert to her Swabian dialect. She said, “It’s like going back to my roots, to who I am. It’s a way to connect with my heritage.”

Figure 7. Individual speaker change in dialect density
the only woman on the all-male board of directors for the local theatre. With the effects of the linguistic market (Sankoff and Laberge 1978) at work, it is reasonable to assume that in 1982 she was accommodating to the standard language. Now in her sunset years, she is reversing toward more non-standard dialect forms, revealing the long-tail of language change and demonstrating how late-stage changes can run counter to community-wide trends (Sankoff, Wagner and Jensen 2012). Siegfried has increased his Swabian orientation over the years (from 4.2 in 1982 to 4.8 in 2017), giving him the highest orientation score of all speakers in the study. He has mentally already moved out of the linguistic market and is counting the days until his retirement. Troubled by the changes occurring to his hometown of Schwäbisch Gmünd and the loss of dialect with the influx of immigrants, Siegfried says he promotes Swabian anywhere and everywhere he can.

### Table 6. Individual speaker change across the lifespan

<table>
<thead>
<tr>
<th>Name</th>
<th>Community</th>
<th>1982</th>
<th>2017</th>
<th>Difference between years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SOI</td>
<td>SMI</td>
<td>Dialect</td>
<td>Total</td>
</tr>
<tr>
<td>Markus</td>
<td>Gmünd</td>
<td>4.3</td>
<td>0.0</td>
<td>616</td>
</tr>
<tr>
<td>Manni</td>
<td>Stuttgart</td>
<td>3.7</td>
<td>26.5</td>
<td>347</td>
</tr>
<tr>
<td>Helmut</td>
<td>Stuttgart</td>
<td>3.3</td>
<td>18.0</td>
<td>283</td>
</tr>
<tr>
<td>Ricarda</td>
<td>Stuttgart</td>
<td>3.5</td>
<td>14.5</td>
<td>375</td>
</tr>
<tr>
<td>Egbert</td>
<td>Stuttgart</td>
<td>4.0</td>
<td>24.5</td>
<td>292</td>
</tr>
<tr>
<td>Anneliese</td>
<td>Gmünd</td>
<td>3.5</td>
<td>44.0</td>
<td>566</td>
</tr>
<tr>
<td>Rupert</td>
<td>Gmünd</td>
<td>4.0</td>
<td>38.5</td>
<td>454</td>
</tr>
<tr>
<td>Herbert</td>
<td>Gmünd</td>
<td>4.2</td>
<td>14.0</td>
<td>491</td>
</tr>
<tr>
<td>Theo</td>
<td>Gmünd</td>
<td>4.0</td>
<td>0.0</td>
<td>236</td>
</tr>
<tr>
<td>Ema</td>
<td>Stuttgart</td>
<td>4.2</td>
<td>7.0</td>
<td>725</td>
</tr>
<tr>
<td>Rachael</td>
<td>Gmünd</td>
<td>4.4</td>
<td>0.0</td>
<td>855</td>
</tr>
<tr>
<td>Angela</td>
<td>Gmünd</td>
<td>4.5</td>
<td>0.0</td>
<td>546</td>
</tr>
<tr>
<td>Jurgen</td>
<td>Gmünd</td>
<td>3.8</td>
<td>0.0</td>
<td>640</td>
</tr>
<tr>
<td>Alfred</td>
<td>Gmünd</td>
<td>4.5</td>
<td>15.0</td>
<td>372</td>
</tr>
<tr>
<td>Pepin</td>
<td>Stuttgart</td>
<td>3.4</td>
<td>30.5</td>
<td>294</td>
</tr>
<tr>
<td>Bertha</td>
<td>Stuttgart</td>
<td>3.6</td>
<td>16.0</td>
<td>364</td>
</tr>
<tr>
<td>Elke</td>
<td>Gmünd</td>
<td>4.2</td>
<td>0.0</td>
<td>410</td>
</tr>
<tr>
<td>Berdine</td>
<td>Gmünd</td>
<td>3.9</td>
<td>17.0</td>
<td>369</td>
</tr>
<tr>
<td>Siegfried</td>
<td>Gmünd</td>
<td>4.2</td>
<td>0.0</td>
<td>551</td>
</tr>
<tr>
<td>Louise</td>
<td>Gmünd</td>
<td>4.3</td>
<td>0.0</td>
<td>474</td>
</tr>
</tbody>
</table>
4.5 Some ethnographic observations

This study has uncovered a number of complementary and competing forces on speakers’ lifespan trajectories. Cheshire (2006) has argued for quantitative studies to include more qualitative, ethnographic analyses that consider individual experiences and life histories to augment the purely statistical findings. In modern Swabia, three changing forces appear to be influencing speakers’ choices in the use of dialect versus standard German. First, individuals develop opposing world-views over their lifetime and often choose to convey those views through language. Rupert, Angela, Jurgen, and Berdine are siblings. In 1982, all four showed similar levels of dialect density and Swabian orientation scores, and all maintained close connections to their home and family in Schwäbisch Gmünd. Rupert wrote Swabian poetry, even publishing a small collection of his poems. However, as he went off to college to complete his PhD, he began to distance himself from his family. By 2017, his Swabian orientation had dropped from 4.0 to 2.4, and he expressed negative attitudes towards the dialect, saying that speaking Swabian is a sign of lack of education; he is proud of the fact that he has “raised his social status over his parent’s generation”. Rupert’s siblings have also achieved high-level degrees and exhibit similar mobility scores: Berdine and Jurgen are teachers in the north of Germany, and Angela is a medical doctor in Stuttgart. However, their Swabian orientation scores have barely changed over the years, and they all demonstrate relative stability in their dialect usage (see Table 6 for the details). All three say they speak Swabian to everyone and only switch to standard German if they cannot be understood. Jurgen, in particular, is saddened by the fact that Swabian appears to be going the way of Plattdeutsch, which has largely died out in everyday usage. The linguistic behavior of these siblings suggest that orientation usurps mobility, occupation and education in the influence it evinces over the linguistic choices individual speakers make.

Second, people develop and foster differing identities over their lifetime. Ricarda and Elke are kindergarten teachers, Ricarda in the sprawling suburbs of Stuttgart and Elke in a small rural town outside of Schwäbisch Gmünd. Ricarda has moved around a lot and even lived outside Swabia for a few years. In 1982, her orientation score was 3.5 and her dialect density was 29.8%; by 2017 her orientation score had dropped to 2.0 (the lowest of all the speakers in this study) and her dialect density to only 6.9%. Even at an early age, Ricarda felt that speaking Swabian did not “fit” with who she was; she said it would make her sound latschig ‘slouchy’. In contrast, Elke has never moved and in fact still lives in the childhood home where she was born. Her Swabian orientation has remained stable (4.2 to 4.4), and her dialect density has changed very little over the years, from 42.8% in 1982 to 40.1%
in 2017. Elke claims she can say what she wants to say in Swabian, something she feels she cannot do in standard German. These two speakers of the same age, sex, education, occupation, and socioeconomic status typify very different dialect identities, which can be attributed in large part to their diverse mobilities and to the vast urban/rural divide between Stuttgart and Schwäbisch Gmünd.

Finally, as previously seen, identity and mobility interact. Speakers with high levels of Swabian orientation and low degrees of mobility are retaining their dialect, while those with low orientation, independent of mobility, are rapidly losing their dialect. Markus, a marketing manager for a technology company in Bavaria, has lost a third of his dialect usage. He travels to Munich for work each week and is home on the weekends. Although his wife is also Swabian, they do not speak Swabian in the home because they want their children to learn to speak standard German. In contrast, Anneliese, now a medical doctor in Zurich, shows only a 20% loss of dialect. She says she loves speaking Swabian and adds, mâ kâ e Schwäâb aus Schwââbeland nehme, aber Schwââbeländle aus e Schwââb kâ mâ et nehme ‘you can take a Schwab out of Swabia, but you can’t take “little Swabia” out of a Schwab’.

5. Concluding remarks

This study of 20 Swabian panel speakers has revealed a large group of unstable speakers in an environment of rapid dialect levelling, exhibiting lifespan change that is promoted or repressed by the individual’s Swabian orientation, geographic mobility, community, education, and gender. The findings challenge prior assumptions that post-adolescence individuals are stable and do not substantially change their speech patterns across their lifespans. As Labov (2001: 447) has claimed,

the lability of speakers 30–50 may be characteristic of changes from above as opposed to changes from below, or of morphology as opposed to phonology, but it underlines the fact that the assumption of stability for young adults […] may have to be revised.

The social and demographic changes that have taken place in Swabia over the last 35 years are vast: higher levels of education, increasing mobility, decreasing local orientation, and changing gender roles. This study has shown that a change in the effects of speaker sex may be in play. The findings show a positive correlation between level of dialect density and Swabian orientation for the men, whereas the women are retaining more of their dialect despite their orientation scores. Based on the preliminary results from the Swabian trend study, it seems clear that the changes across the lifespan are indicative of community-wide, generational change and are representative of the Swabian population today.
The findings of this study suggest that intangible notions of personal orientation are so powerful that they can overshadow and eclipse more tangible constraints such as mobility and education or social class (i.e., education). Individual orientation is also manifested in the urbanity/rurality of the community: greater dialect attrition is occurring in the more open, loosely knit, urban community of Stuttgart, where individuals have lower Swabian orientation scores on average (3.1) than in Schwäbisch Gmünd (3.8). Speakers in Schwäbisch Gmünd attach social meaning to dialect variants and are proud to portray their ‘dialect identity’, which results in higher levels of dialect retention (14.2% in Stuttgart versus 29.2% in Schwäbisch Gmünd). According to Milroy (1987: 175), the more closely individuals are connected to the local community, the more closely their language approaches the vernacular. While it is social pressure that may prompt speakers to use (non) standard forms, this study has shown that community and local orientation have a more powerful influence.

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References


Urban/suburban contact
as stylized social practice

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This study highlights the importance of urban/suburban contact to linguistic variation. I explore two case studies of intra-metropolitan contact and their effect on variation in the English of Greater St. Louis, USA. Data comes from 14 white women born 1971–1991 from outer-ring suburbs in St. Charles County who differ in their length of commute, and twelve white women born 1935–1952 from the City of St. Louis who differ in whether they moved to suburbs in adulthood. The results suggest that in contact situations, the city and suburb accommodate to one another: commuting towards the city yields more ‘city-like’ speech, while moving away from the city yields more ‘suburb-like’ speech. However, identity mediates these contact situations through stylized social practice.

Keywords: suburbs, contact, migration, commuting, social practice, Northern Cities Shift, St. Louis

1. Introduction

One of the complicating factors when studying linguistic variation in metropolitan areas (globally, I would submit, although perhaps most clearly in the United States) is that suburbs and the central city are in a complex relationship, as they have economic and cultural ties, yet are also socially and politically fragmented.

Many sociolinguistic studies treat the metropolitan area in one of two ways which privilege one or the other of these aspects: a small town wholly separate from the city (Gordon 2001; Johnson 2007; Olivo 2013) or as part of the city itself (Wikle and Bailey 1997; Thomas 1997; Driscoll and Lape 2015). Each approach has its merits. For example, urban theorists like Brenner (2002) consider cities and their suburbs to constitute an urban agglomeration, which offers support to the treatment of the metropolitan area as a single unit. At the same time, because the regions
are so fragmented, approaches which treat suburbs and the central city as separate communities are also justified. Recent work that combines these approaches has in fact shown that patterns of linguistic variation in metropolitan areas can involve effects of both political fragmentation and regional cohesion (Duncan 2019).

Each of these approaches share the key assumption that residents of a space are largely similar. That is, after accounting for differences in social class, sex/gender, etc., speakers from a given space will share linguistic features and/or constraints. A growing body of work suggests that this assumption, and space and place more generally, should be problematized (Horvath and Horvath 2001, 2002; Johnstone 2004; Britain 2010, 2013). Britain’s (2010) core critique of how space has been treated in variationist sociolinguistics illustrates why this is the case. According to Britain (ibid.), much of the literature either ignores space entirely, or considers only locations and the distance between them. In their studies of /l/ vocalization in Australia and New Zealand, Horvath and Horvath (2001, 2002) make the convincing claim that considering the distance between locations is not enough for studies of linguistic variation, but that studies must rather consider effects of place as well.

While he uses slightly different terminology, Britain (2013) similarly considers distance to be but one of the three faces of spatiality: Euclidean space, social space, and perceived space. Euclidean space is ‘objective’ space that deals in locations and the distance between them. Social space is space as shaped by humans – the built environment, how the state organizes and controls it, and the like. Perceived space is how individuals and civil society construct perceptions and attitudes of space, as well as how these attitudes and perceptions are shaped by space. These latter two types of space fit into what Horvath and Horvath (2002) consider to be place. While these aspects of space can be separated from one another, they are inherently tied together in the construction of spatiality.

The role of perceived space in constructing place suggests that it is not simply where a speaker grew up in a metropolitan area that influences how they speak, but how they interact with the area and the people within it. Accordingly, the aim of this paper is to consider the influence of one aspect of speakers’ lifestyles on linguistic variation within a metropolitan area. Using Greater St. Louis, Missouri,¹ USA, as a case study, I examine how differing degrees of contact between urbanites and suburbanites correlates with variation. I operationalize this in two ways: speakers who grew up in the city and subsequently moved (or did not move) to the suburbs as adults, and speakers who grew up in suburbs and commute (or do not commute) towards the city for work. I will show two key results from this.

¹ Greater St. Louis includes parts of both Missouri and Illinois. I have situated the region in Missouri here because all of the data discussed in this paper comes from the Missouri side of the metropolitan area.
Firstly, there are bidirectional contact effects arising from urban/suburban contact. Secondly, quantitative measures of speaker identity correlate with whether speakers enter into contact situations or not.

I argue that, although entering into a contact situation – moving to the suburbs or obtaining a job near the city – is largely market- and policy-driven, there is an element of choice involved for individuals as well. This desire-driven element of entering into contact situations means that contact arises through a form of social practice which is available to be stylized. I suggest that the correlation between contact and the quantitative measures of identity illustrate that speakers are doing exactly that. By stylizing their social practice, speakers throughout the region enter into contact with one another to varying degrees, which carries linguistic consequences.

2. Contact and identity in metropolitan areas

Metropolitan areas are complex systems, and as such speakers within them have a multitude of ways to come into contact with each other. In this paper, I focus on two of these ways: residence and employment. These were chosen because they both largely represent one-way population flows, making contact within the region of these types rather easier to understand. That said, not every speaker within a metropolitan area participates in these population flows, which means that otherwise comparable populations may differ with respect to the degree of contact that members have with other speakers. In this section, I explore the role of residence and employment further and consider a potential role for identity in metropolitan contact.

2.1 Migration to suburbs

Suburbanization in the United States began in the mid-to-late 19th century, as upper middle class residents of cities in the industrial Northeast moved out of the city to chase a rural ideal (Muller 1976). Early suburbs were quite expensive, and it took advancements in housing construction and public transit to make suburbs more affordable and open them up to the lower middle class. Access again widened, beginning in the 1930s, as the Federal Housing Administration and Home Owner Loan Corporation subsidized the building of suburban housing units. This trend accelerated in the postwar era, as the G.I. Bill made this subsidizing available to all white servicemen returning from World War II (Jackson 1985). Housing subsidies were primarily limited to white Americans, meaning that American suburbs were
constructed white as a matter of public policy (see, for example, Abrams 1955). Suburban development has thus been marked by market- and policy-driven limits on access from the beginning, as racial and economic factors play a role in determining who can move to suburbs.

Although migration to suburbs occurred from all over the United States, much of the migration is from the city to the suburbs (Jackson 1985). This effectively meant that, while many American cities (and in fact the most densely populated neighborhoods in almost all American cities) lost population in the postwar era (see Lichter and Brown 2011 for recent data), the metropolitan areas typically did not lose population because the urban population loss remained in the region. This means that suburbs pose an instance of intra-metropolitan area contact: urban migrants come into contact with the formerly rural or older suburban residents (not to mention the migrants from elsewhere in the United States) as a suburb develops.

However, while large-scale population loss in American metropolitan areas is well-documented, the fact remains that not every urban resident left the city for the suburbs. Some of this is a matter of the aforementioned limits placed on access by racial housing discrimination and economic factors. For example, working class African Americans typically remained in the city as middle class whites moved out during the postwar era. For these urban residents, moving may never have been a realistic option (although Nicolaides and Wiese (2006) note that access has increased in recent decades). There were, however, white middle class residents who had the ability to move to the suburbs but did not. These residents are comparable to their peers who grew up in the city and left. By virtue of not leaving, however, they come into far less contact with ex-rural speakers and other suburban migrants. Older speakers who left/did not leave the city in the postwar era thus represent a group with differing degrees of contact.

2.2 Commuting to cities

Historically, the commercial and industrial centers of the metropolitan area remained in the central city, even as middle class residents migrated to the suburbs (Jackson 1985). As such, these residents typically were employed in the central city and commuted to work. For this reason, Jackson (ibid.) considers a long travel-to-work time to be a key feature of American suburbs. Commuting thus represents another contact site; suburban commuters interact with other commuters as well as urban locals while at work. For this reason, in fact, Buchstaller and Alvanides (2013) use travel-to-work areas to delineate sampling regions for dialectological fieldwork in the North East of England.
Recent decades have seen industry, retail, and other key parts of the local economy move to the suburbs (Teaford 1997). This decentralization is reflected in current demographic trends in the United States; while there was net migration into metropolitan areas in 2008–2009, the urban core had a net loss of population (Lichter and Brown 2011). In such metropolitan areas, suburbanites have little need to visit the central city, as they can live, work, and shop in the suburbs. In such cases the central city usually maintains cultural significance, although cultural institutions are beginning to move to the suburbs as well. Those suburbanites who do work in the suburbs thus do not have contact with urban speakers to the same degree that commuters do. Because decentralization has meant that not every suburban worker commutes to the central city anymore, younger suburban residents are another group in which speakers differ in their degree of contact.

2.3 A role for identity?

The development of suburbs accompanied a cultural shift in the United States. In particular, the rise of the importance of the nuclear family and personal privacy has been linked to suburbanization (Jackson 1985). At the same time, the subsidization of built housing has encouraged a high degree of homeownership. Due to this policy-backed encouragement, the American Dream of homeownership and middle class status became synonymous with an aspiration to a suburban lifestyle (Jackson 1985; Nicolaides and Wiese 2006; inter alia).

As a result of this synonymy, many in academia and the public alike adopt what Berger (1961) calls the myth of suburbia. The myth concerns who lives in the suburbs – the white middle class – and how they live – a nuclear family in a home they own. This myth carries specific claims about ‘the suburban lifestyle’, as though there is a single one. These claims include a high degree of religiosity and commonplace interactions between neighbors. Furthermore, the myth claims that ownership of any particular home is temporary, as upward mobility will enable the purchase of a better one (Berger 1961).

The ideology underlying the myth of suburbia means that much of suburban identity is marked in opposition to the urban (Fishman 2006). This opposition is often rooted in fear of the urban, as Low (2001) notes. This urban fear is racialized; black neighborhoods in the central city are often seen as representing the whole of the urban space (Teaford 1997). Because suburban identity is often constructed in opposition to urbanness, Hummon’s (1986) study of two California suburbs finds that relatively few residents of either positively identify as suburban, while most construct their place-based identity with respect to urban and rural environments.
Those that do identify as suburban, however, root their identity in the myth of suburbia, relying on positive imagery such as their concern for family and home life.

The myth of suburbia and its associated imagery is the predominant view of suburban spaces, and can be seen as a form of habitus (Bourdieu 2010): a discourse of values embodied and reproduced by individuals. Because this discourse of suburbs as white and middle class and the values associated with this group is so embedded within American culture, individuals often take positions on suburbs (and the city) in reference to the discourse.

Even so, we should take interest in how individual speakers take positions on suburbs and the city, both in social and linguistic practice. By social practice, I mean how speakers position suburbs, the central city, and themselves in the moral geography of the metropolitan area (following Modan 2007) through day-to-day activity, interaction, and the like. Following Eckert’s (2008) discussion of stylistic practice, I use linguistic practice to mean how speakers draw upon linguistic features to index aspects of their identity.

There is good evidence that speakers may engage in linguistic stylistic practice to index place-based identity. Fridland (2012: 187) posits that the urban/rural divide plays out linguistically in the Southern Vowel Shift, by which there is an “ecological distinction” between rural and urban speakers in their maintenance of shifted front vowels. In his study of Hancock County, Tennessee, Reed (2016) finds this ecological distinction reproduced within the rural population. Speakers who display higher degrees of ‘rootedness’, who are tied to the community and have a great deal of local pride, also have higher rates of PRICE monophthongization and rising pitch accents than less rooted speakers. Our question, then, is in part whether place-based stylistic practice, like that found to distinguish urban and rural areas, is also used to distinguish urban/suburban speakers within a metropolitan area.

3. Greater St. Louis

I situate this exploration with a case study in Greater St. Louis for social and linguistic reasons. Socially, the region is prototypical of American metropolitan areas and thus a good field site. Linguistically, there are urban phonological features that make the local white dialect distinct from white dialects in the surrounding region. As such, it is reasonably straightforward to test for contact and identity effects in the St. Louis area.
3.1 Background

St. Louis was a large industrial city during the 19th and early 20th centuries, and as such saw both early suburban development and the more widespread pattern of postwar suburbanization. The postwar pattern in particular resulted in the loss of approximately 60% of the city’s population since 1950, most of which remained in Greater St. Louis (see, for example, discussion in Williams 1973). This loss was primarily white flight due both to policy and racial animus; subsidized housing through the G.I. Bill enabled white families to leave the city, and animus toward the prospect of neighborhood integration encouraged many to do so (see Gordon 2008 for further discussion). As seen in Figure 1, suburban development in Greater St. Louis has resulted in a heavily suburban region. The City of St. Louis itself is the small teardrop in the center, while the remainder of the map shows suburban and exurban counties. The relatively densely populated region in the middle forms the core urbanized space of the metropolitan area.

![Population Density in Greater St. Louis](United States Census Bureau 2017, prepared by Social Explorer)

Sprawl, population loss in the City of St. Louis, and the concentration of wealth in suburban areas have resulted in the metropolitan area decentralizing in addition to suburbanizing. The suburb of Clayton is widely regarded as the first edge city (to use the term coined in Garreau 1991), or suburb with a business district unconnected to...
that of the central city, in the United States (Kersten and Ross 1968; Teaford 1997), and much of the industry in the metropolitan area is located in suburbs.

This decentralization, in conjunction with the large suburban population, enables many to avoid the city itself if they so desire. This means that there are some suburban residents who not only live, but work, shop, and seek entertainment entirely in the periphery, while other suburban residents work and/or shop and/or seek entertainment in the central city. Table 1 provides a partial illustration of this: the majority of workers in the City of St. Louis, St. Louis County (immediately west of the city), and St. Charles County (30 miles west of the city) have relatively short commutes (zero–29 minutes), which indicates that they work close to home. Other workers do have longer commutes (30+ minutes); note that St. Charles County has the largest percentage of such workers. Where the region is not decentralized, we would expect to find a starker contrast between locations, with far longer commutes in St. Charles County compared to the City of St. Louis. Instead, St. Charles County has large populations of both commuters and those working near home.

Table 1. Travel-to-work times in three Greater St. Louis counties (United States Census Bureau 2016, prepared by Social Explorer)

<table>
<thead>
<tr>
<th>Travel-to-work time</th>
<th>Less than 10 minutes</th>
<th>10–29 minutes</th>
<th>30–59 minutes</th>
<th>60 minutes or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Louis City</td>
<td>8.69%</td>
<td>58.81%</td>
<td>26.11%</td>
<td>6.39%</td>
</tr>
<tr>
<td>St. Louis County</td>
<td>9.26%</td>
<td>56.18%</td>
<td>30.24%</td>
<td>4.32%</td>
</tr>
<tr>
<td>St. Charles County</td>
<td>8.83%</td>
<td>52.63%</td>
<td>34.78%</td>
<td>3.76%</td>
</tr>
</tbody>
</table>

These factors of widespread suburbanization and decentralization suggest that Greater St. Louis is a strong candidate for a case study of language and contact within a metropolitan area.

3.2 Linguistic features

Greater St. Louis has several traditional linguistic features that differ from the surrounding region. The city historically merged the start and north vowels, and is stereotyped as doing so today despite apparent time retreat to the general North American English merger of north and force (Murray 2002). Duncan (2018) finds that this retreat is operationalized by raising north, and that among speakers old enough to have the traditional merger, it is far more prevalent in the city than suburbs, making the feature particularly urban.
The St. Louis area also participates in the Northern Cities Shift (NCS), which includes the raising, fronting, and diphthongization of TRAP; fronting of LOT; lowering of THOUGHT; and backing of DRESS (Goodheart 2004; Labov, Ash and Boberg 2006). Duncan (2019) finds that LOT-fronting progressed throughout Greater St. Louis during a similar timeframe, but that TRAP-raising only spread to suburbs via relocation diffusion (cf. Johnson 2007) after suburban development began. In other cities with the NCS, the TRAP and LOT vowels in particular are stigmatized and in retreat (cf. Wagner et al. 2016 for Lansing, MI, and Driscoll and Lape 2015 for Syracuse, NY). Greater St. Louis shows this pattern as well; both LOT and TRAP are in retreat, with TRAP undergoing phonological reorganization to the nasal system common to North American Englishes, in which a raised and fronted allophone is present in pre-nasal contexts (Duncan 2019). Duncan (ibid.) additionally shows that St. Louis’ suburbs are leading these retreats.

We thus have three vowels—north, trap and lot—for which speakers in the city and suburbs appear to have different patterns and which may be stereotyped or show evidence of social evaluation. These vowels are ideal variables, then, for exploring potential contact effects in Greater St. Louis. In the analysis that follows, I therefore examine F1 of north, F2 of LOT, and F1 of TRAP (focusing on the raising element of the vowel).

It is worth considering what the variants mean, and what we expect to see. Although the entire region is retreating from use of the traditional low NORTH vowel (merged with START) and NCS TRAP and LOT, because the suburbs lead retreat (Duncan 2019), we can view the traditional features as more ‘city-like’ and the outcomes of retreat (nasal TRAP system, backed LOT, raised NORTH) as more ‘suburb-like’. Essentially, while the whole of Greater St. Louis is retreating from traditional features, the City of St. Louis appears to be most conservative in this respect, and we will thus be treating conservative speakers as ‘city-like’. In this regard, contact effects would be a function of interaction with more or less conservative speakers. We would expect older speakers who migrated to suburbs to be less ‘city-like’ in production than those who remained because they are in contact with less conservative speakers. At the same time, we would expect younger suburban speakers who commute toward the city for work to be more ‘city-like’ in production than those who do not commute because they are in contact with more conservative speakers.
4. Methods

Data for this study is drawn from Duncan’s (2018) study of 52 white middle class women in Greater St. Louis (out of a larger sample of 94 speakers from the region). Of these 52 women, two subsamples (26 speakers total) were taken, with the aim of creating a natural experiment to test the effects of residence and employment. Although the subsamples cover different age groups, this is not a problem because the subsamples will not be quantitatively compared to each other. For this reason, the subsamples were selected to capture a demographic profile appropriate for the period in which contact would have occurred.

The first sample is used to test the effect of residence. It consists of twelve speakers who grew up in the urban environment of South St. Louis. All of these speakers are older, born between 1935 and 1952. As such, they had the opportunity to either leave the city (six speakers) or remain (six speakers) in adulthood. The second sample is used to test the effect of employment. It consists of 14 speakers who grew up in suburban St. Charles County. St. Charles County only saw suburban development begin in earnest after 1970, and as such this is a younger sample, with all speakers born between 1971 and 1991. Of these speakers, five commute toward the city for work, while nine work locally in St. Charles County. I say ‘toward the city’ because none in fact work in the City of St. Louis itself; however, all five work in St. Louis County, which is closer to the city than St. Charles County. They all thus commute toward the center, which is different from living and working in the periphery as their peers do. Figure 2 shows the location of both sampling sites within Greater St. Louis.

Both of these subsamples admittedly represent a simplification of the dynamics under discussion. Although I am using employment and residency as a proxy for degree of contact, there is of course variability in individuals’ experiences of these factors. This variability in experience means that not every speaker will have the exact same amount of contact that others categorized in the same way will. For example, one commuter may socialize with urban colleagues and have close ties to the city as a result, while another may have quite weak ties with their (suburban) colleagues on the whole. Overall though, I believe it is accurate to claim that on

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2. One speaker I count as a commuter is a housewife, but she and her husband moved to St. Louis County. Because of where she lives, she, like the commuters who still reside in St. Charles County, is in contact with speakers in St. Louis County. As such, she best fits into this group. One speaker I count as a non-commuter has quite a long commute, but works in suburban Jefferson County, which is south of St. Louis County. She is thus a speaker on the periphery who commutes to elsewhere on the periphery, which I view as different from commuting toward the center.
average, suburban speakers who work near the city will have more contact with urban speakers than those who work in the periphery, and urban speakers who moved to the suburbs will have more contact on average with suburban speakers than those who remained in the city.

At the same time, it is quite possible for these factors to be collinear with other potentially relevant factors. For example, Duncan (2020) examines the same set of older speakers with respect to the type of secondary education institution they attended, and notes that the analysis is complicated by the fact that the distribution of speakers who attended Catholic high schools as opposed to public high schools is nearly identical to the distribution of speakers who remained in the city as opposed to moving. Whether this collinearity is meaningful in and of itself or simply a coincidental result of a small sample is beyond the scope of this chapter, but we should certainly recall this when interpreting the results of the following analysis. Although these issues of simplification and collinearity should be taken into account and any further exploration should problematize the factors further, I believe the factors as operationalized will be informative as a first pass at understanding the effects of different forms of contact within a metropolitan area.

Figure 2. Location of urban and suburban sampling sites
4.1 Interviews

All speakers participated in a classic sociolinguistic interview (see Becker 2013 for discussion); the data I consider here is from the informal conversation portion of the interview. Interviews were recorded using either a Zoom H4 Handy recorder (nine recordings), a Zoom H5 Handy recorder (one recording), or the H5 recorder and Shure SM93 omnidirectional lavalier microphone (16 recordings). This variability in recording equipment will not affect the analysis of vowel formants. Regardless of the equipment used, interviews were recorded as .wav files using a 16 bit, 44.1 kHz sampling rate.

Fifteen minutes of each interview were transcribed by an undergraduate research assistant. Transcriptions were forced-aligned using the FAVE3 program, and a Praat4 script was used to extract vowel formant measurements in 10% intervals. Data was normalized using the Lobanov (1971) method and normalized values were rescaled to Hz using the means of overall speaker means and overall speaker standard deviations. Because the trap vowel is often diphthongized, I use the measurement at 20% of the vowel duration to ensure that I measure the nucleus. I use the measurement at 40% of the vowel for lot and north. I use linear mixed effects regression in R5 (Bates et al. 2015) to analyze the production data. Speaker and lexical item were random effects, while residence/employment and phonological factors known to influence the production of the vowels under study in Greater St. Louis (Duncan 2018, 2019) were included as fixed effects.

4.2 Questionnaire

To assess speakers’ orientation to place and potential effects of this on linguistic practice, this study relies on a questionnaire in conjunction with production data from the conversation portion of the sociolinguistic interview. The questionnaire was designed to elicit evaluations of suburbs and cities for various attributes under the reasoning that one’s evaluation of place is part of (but certainly not the entirety of) one’s place-based identity. Participants were provided with a list of potential

3. FAVE (Forced Alignment and Vowel Extraction) is an automatic vowel formant extraction software(10.5281/zenodo.22281).

4. Praat is a computer program with which you can analyse, synthesise, and manipulate speech, and create high-quality pictures. The version used here is version 6.0.28 from 2017. (http://www.praat.org/).

5. R is a free software environment for statistical computing and graphics (https://www.r-project.org).
attributes and asked to circle those that describe cities or suburbs. These attributes were collected in part from scales used in matched-guise studies by Bauman (2013) and Lambert et al. (1960) and were supplemented with others that one often finds are used to describe places in popular and news media (e.g., safe/dangerous, quiet/loud, cultured). In total, 40 attributes were collected in a randomized two-column list.

The circling task was the final part of the sociolinguistic interview. After the semi-structured conversation and elicitation of careful speech, participants filled out a questionnaire that asked where they travel within the area and what kinds of activities they participate in.

Next, they were handed the list of 40 attributes and asked to circle all of the words that describe “big cities”. If clarification was sought, I explained that they were to describe cities of a comparable size to or larger than the City of St. Louis. I explicitly did not specify a maximum or minimum number of attributes to be circled. After participants finished with this list and returned it to me, I handed them a re-randomized list of the same 40 attributes and asked them to circle all of the words that describe “suburbs like those around St. Louis”. When clarification was sought, I suggested that if they had an idea of suburbs in general, they could describe those. Again, I did not specify a minimum or maximum number of circles to be made.

To determine which attributes tend to be circled together, I use principal component analysis (PCA) in R on the data. This analysis is a statistical method for transforming possibly correlated variables (in our case, different attributes) into new orthogonal principal components. There are as many components as variables in the original data set, but the components are not correlated. The variance is computed for each component. This value represents how much of the variability in the data is explained by variation in the value of the component. This is comparable to the $r^2$ value of a linear regression model, which represents how much of the variability in the dependent variable is explained by variability in the independent variables.

In our case, the variance of a component reflects how much of the variability of the entire data set is explained by variability in the value of the component. By rotating these components, we can see the loading of each variable, or how well the variable correlates with the component. The sign of the loading indicates positive or negative correlation, while the magnitude of the loading indicates the degree to which the variable is correlated with the component. While a component includes influences of each variable in the data set, the loading is often taken to indicate which variables most influence the value of the component. For a given component, we are thus able to use these measures to see how much of the variability in the data is explained by the component (the variance) and which of our original factors are strongly correlated with it (the loading).
Both PCA and its relative, factor analysis, have been used in linguistics to reduce a long list of attributes to a smaller number of factors in analyzing evaluation tasks (Grondelaers and van Hout 2010; inter alia). In these approaches, the variables with the highest magnitude loadings for a given component can be viewed as mutually constituting a factor. For example, if a data set has 25 variables, PCA will create 25 components, of which three may have a high variance and thus explain a great deal of variability in the data set. These three components can then be interpreted as factors constituted by variables with a high-magnitude loading. Linguistic studies that rely on PCA therefore require two cut-off points in order to summarize the data. One cut-off is the variance of components; only those components with a higher variance than the cut-off are kept. Another cut-off is the loading of variables; only loadings whose magnitudes exceed the cut-off are selected as contributing to the component.

This process allows researchers to find a handful of factors that represent bundles of variables. The researcher can then interpret the meaning of each factor by looking for commonalities between the variables selected for the factor. Often, the factors are given a name in prose to signify what the researcher perceives as commonalities between the correlated variables.

In our case, the data is the list of 80 attributes (40 for cities and 40 for suburbs). The responses for all 94 interviewees who completed the task were converted into binary variables by coding a circled attribute as 1, and a non-circled attribute as 0. Here, PCA was run two times: once on the attributes describing cities alone (a data set of 40 variables), and once on the attributes describing suburbs alone (a data set of 40 variables).

In each case, principal components were kept if they had a variance above 0.05, that is, if the variability in the value of the component explained at least 5% of variability in the data set. Rotated variable loadings were kept if the magnitude of the loading was above 0.25. Because there are a great many variables and the variables are binary, loadings appear to be lower overall than in other studies. As such, the loadings with a magnitude of .25 represent a high degree of correlation with the component in comparison to other variables. The accepted components and the variables they encompass were then transformed into scales representing selected factors. The responses of individual speakers were then used to obtain a score for each factor. I treat these scores and their underlying scales as social factors that we can correlate with linguistic data.
5. Results

Each of the three variables analyzed shows an effect of degree of contact. Overall, contact effects are bidirectional; we find evidence of suburban commuters adopting ‘city-like’ productions and urban migrants adopting suburb-like productions. However, each variable only shows an effect for one sample under study. We also find that our quantitative measures of place identity correlate with whether speakers enter into contact situations.

5.1 Production

Residence is correlated with both north and lot production. For each of these vowels, I use speakers who remained in the city as a baseline when conducting linear mixed effects regression. With respect to north, the baseline production is fairly low ($\beta = 706.104, p << 0.0001$). Duncan (2018) had found in a larger sample of speakers that the vowel is higher with an onset preceding the vowel. We find that this effect remains in the smaller sample of speakers ($\beta = -64.096, p = 0.0244$). The effect of residence is that the vowel is higher among speakers who moved to the suburbs later in life than those who remained in the city ($\beta = -57.284, p = 0.0413$, cf. Figure 3).

![Figure 3. NORTH production in South St. Louis](image-url)
LOT behaves similarly to NORTH. The baseline production by speakers who remained in the city is fronted ($\beta = 1475.141, p << 0.0001$). Duncan (2019) found an effect of the environment following the vowel; the effect is repeated in the smaller sample. The vowel is backer when followed by /l/ in a closed syllable ($\beta = -183.805, p = 0.0088$). In addition, the vowel is backer among speakers who moved to the suburbs ($\beta = -50.261, p = 0.0256$, cf. Figure 4).

![Box plot of F2 of LOT for South St. Louis speakers b. 1935–1952, comparing city and suburban residence](image)

**Figure 4.** LOT production in South St. Louis

Both effects of residence, then, are in the expected direction. Speakers who remained in the city are more conservative in production than speakers who moved to the suburbs, as both the lower NORTH vowel and fronter LOT vowel are more ‘city-like’.

Although the TRAP system is changing for younger speakers in St. Charles County, we nevertheless find an effect of employment on production. For the regression model reported here, I use speakers who work near home as a baseline, with a baseline utterance of TRAP preceding a voiced stop. The environment following the vowel is well-known to condition variation even in the NCS system that lacks allophonic variation (Goodheart 2004; Labov, Ash and Boberg 2006; Duncan
Duncan found that manner of articulation, place of articulation, and voicing of the following consonant all condition variation in Greater St. Louis.

As summarized in Table 2, in this subsample we find effects of manner and voicing, as well as speaker age, employment, and interactions between age/manner and employment/manner. There is no fixed effect of place of articulation in the subsample. The age/manner interaction shows that the speakers are adopting the nasal trap system in apparent time. The vowel is raising in pre-nasal contexts and lowering elsewhere. The main effect of employment shows that the speakers who commute toward the city have a higher vowel than those who work near home (Figure 5, illustrating the effect in pre-stop contexts), while the interaction shows that pre-nasal tokens are lower among those who commute. The overall effect, then, is that even as speakers in St. Charles County shift to a nasal system, speakers who commute toward the city have less of a nasal system because their pre-nasal and pre-elsewhere tokens are closer together in F1. In other words, commuters have a more NCS-like trap vowel, and therefore a more ‘city-like’ trap vowel.

Table 2. Regression model of trap production in St. Charles County

| Predictor                               | Estimate | Std. Error | df  | t value | Pr(>|t|) |
|-----------------------------------------|----------|------------|-----|---------|----------|
| Intercept (bad, work near home)         | 705.965  | 14.816     | 77.2| 47.649  | << 0.0001|
| Manner–Nasal                            | −149.408 | 15.688     | 258.2| −9.524  | << 0.0001|
| Manner–Fricative                        | 18.454   | 15.499     | 337.0| 1.191   | 0.2346   |
| Manner–/l/                              | −8.091   | 34.151     | 390.7| −0.237  | 0.8129   |
| Voicing–Voiceless                       | 41.676   | 14.237     | 206.0| 2.927   | 0.0038   |
| Occupation–Commute                      | −35.731  | 16.339     | 18.8 | −2.187  | 0.0416   |
| scale(Age)                              | −25.596  | 7.680      | 19.1 | −3.333  | 0.0035   |
| Manner–Nasal:scale(Age)                 | 39.094   | 8.510      | 794.4| 4.594   | << 0.0001|
| Manner–Fricative:scale (Age)            | 2.575    | 9.472      | 814.3| 0.272   | 0.7858   |
| Manner–/l/:scale(Age)                   | 41.741   | 18.217     | 802.4| 2.291   | 0.0222   |
| Manner–Nasal:Occupation–Commute         | 46.405   | 17.147     | 814.4| 2.706   | 0.0069   |
| Manner–Fricative:Occupation–Commute     | 16.836   | 19.339     | 816.8| 0.871   | 0.3843   |
| Manner–/l/:Occupation–Commute           | 36.207   | 42.040     | 818.1| 0.861   | 0.3894   |

Note that the effect of employment, like that of residence, is in the expected direction. Speakers who commute, and who are presumably in more contact with conservative speakers, are more conservative in their trap production than those who work near home.
Figure 5. Pre-stop TRAP production in St. Charles County

5.2 Questionnaire

Several factors emerged from the PCA analysis of the circling test. Of them, two appear to correlate with degree of contact. Factor 1 of the city attributes correlates with residence (see Table 3), while Factor 2 of the suburb attributes correlates with employment (see Table 4).

Table 3. Factors selected in PCA run of city attributes

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Attribute</th>
<th>Loading</th>
<th>Factor 2</th>
<th>Attribute</th>
<th>Loading</th>
<th>Factor 3</th>
<th>Attribute</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beautiful</td>
<td>−0.263</td>
<td></td>
<td>Poor</td>
<td>0.358</td>
<td></td>
<td>Fun</td>
<td>−0.262</td>
<td></td>
</tr>
<tr>
<td>Hardworking</td>
<td>−0.279</td>
<td></td>
<td>Dirty</td>
<td>0.344</td>
<td></td>
<td>Loud</td>
<td>−0.276</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>−0.286</td>
<td></td>
<td>Unfriendly</td>
<td>0.341</td>
<td></td>
<td>Cultured</td>
<td>−0.308</td>
<td></td>
</tr>
<tr>
<td>Familiar</td>
<td>−0.300</td>
<td></td>
<td>Dangerous</td>
<td>0.310</td>
<td></td>
<td>Exciting</td>
<td>−0.316</td>
<td></td>
</tr>
<tr>
<td>Friendly</td>
<td>−0.318</td>
<td></td>
<td>Rich</td>
<td>0.284</td>
<td></td>
<td>Fast</td>
<td>−0.387</td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td>−0.322</td>
<td></td>
<td>Rude</td>
<td>0.282</td>
<td></td>
<td>Liberal</td>
<td>−0.417</td>
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</tr>
<tr>
<td>Sad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale Range:</td>
<td>0–6</td>
<td></td>
<td>Scale Range:</td>
<td>0–7</td>
<td></td>
<td>Scale Range:</td>
<td>0–6</td>
<td></td>
</tr>
<tr>
<td>Variance:</td>
<td>0.197</td>
<td></td>
<td>Variance:</td>
<td>0.125</td>
<td></td>
<td>Variance:</td>
<td>0.101</td>
<td></td>
</tr>
</tbody>
</table>
Table 4. Factors selected in PCA run of suburb-only attributes

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Loading</td>
</tr>
<tr>
<td>Clean</td>
<td>0.251</td>
</tr>
<tr>
<td>Wholesome</td>
<td>0.257</td>
</tr>
<tr>
<td>Beautiful</td>
<td>0.263</td>
</tr>
<tr>
<td>Hardworking</td>
<td>0.269</td>
</tr>
<tr>
<td>Good</td>
<td>0.271</td>
</tr>
<tr>
<td>Happy</td>
<td>0.287</td>
</tr>
<tr>
<td>Friendly</td>
<td>0.290</td>
</tr>
<tr>
<td>Scale Range:</td>
<td>0–7</td>
</tr>
<tr>
<td>Variance:</td>
<td>0.210</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Loading</td>
</tr>
<tr>
<td>Dangerous</td>
<td>0.365</td>
</tr>
<tr>
<td>Rich</td>
<td>0.337</td>
</tr>
<tr>
<td>Poor</td>
<td>0.332</td>
</tr>
<tr>
<td>Liberal</td>
<td>0.259</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale Range:</td>
<td>0–4</td>
</tr>
<tr>
<td>Variance:</td>
<td>0.082</td>
</tr>
</tbody>
</table>

Factor 1 of the city attributes appears to describe the city as a nice place to live, including attributes like *Hardworking, Friendly,* and the like. As such, I label it as ‘City is nice place’. Because all of the loadings for this factor are of the same sign, I construct the scale for this factor by assigning speakers +1 for each of the listed attributes that they circle. In this way the score for this factor increases as speakers circle more associated attributes. Figure 6 shows what appears to be a clear relation between this factor and residence: scores are higher for speakers who remained in the city.

Linear regression does not show this difference to be significant ($\beta = 2.333, p = 0.058$). Judging from Figure 6, this appears to be due to the outlier speaker who moved to the suburbs, yet had a high score for the factor. Given that there are only twelve data points here, it is perhaps odd to refer to one of them as an outlier; more data would help to determine how robust the pattern actually is. For now, we have an intriguing pattern which is worthy of discussion: speakers who see the city as a nice place tend to be the ones who remain in it.
Factor 2 of the suburb attributes describes suburbs in a negative light, including attributes like *Closed, Boring*, and the like. As such, I have labeled it as ‘Suburbs are dull’. Here, attributes have both positive and negative loadings on the factor. In order to construct the scale, I assign −1 if a speaker circled *Beautiful*, while all other responses receive +1. Figure 7 again shows a clear relation between the factor and employment. Speakers who work near home have low scores, while those who commute toward the city have high scores. Linear regression does find this to be a significant correlation ($\beta = 2.267, p = 0.0006$), despite the limited number of data points. It appears, then, that speakers who see suburbs as rather dull are the ones who commute to work.

![Figure 6. ‘City is nice place’ scores among South St. Louis speakers](image-url)
6. Discussion

The production data shows bidirectional effects of contact. In one direction, speakers raised in the city who moved to the suburbs, putting them in contact with less conservative speakers, have less ‘city-like’ speech than peers who remained. In the other direction, speakers from St. Charles County who commute toward the city for work, putting them in contact with more conservative speakers, have more ‘city-like’ speech than peers who work near home.

In this section I will discuss these results in the context of the questionnaire results. These showed that speakers’ attitudes toward place, such as whether one views the city as a nice place or believes the suburbs are dull, are linked to the degree of contact that one has with others in the region. Such attitudes by no means express the entirety of speakers’ place-based identity, but are, I argue, an element of it. I recognize that because we are dealing with rather small sets of speakers, and because the questionnaire data has been reduced to single data points per speaker, we are limited in the strength of the conclusions that can be drawn. I suggest, however, that the data, limited as it may be, is intriguing enough to warrant discussion.

Before proceeding with this discussion, I should remark upon the residence effects in particular. Recall that the residence factor nearly overlaps with the kind of
high school that speakers attended (Duncan 2020). While in isolation the linguistic results could potentially be interpreted as an education type effect, this questionnaire result seems less attributable to education type. Why would students who enrolled in Catholic schools fifty years ago think the city is nicer than students who were in public schools at that point? At the same time, that we find similar types of effect (linguistic difference and a positive/negative evaluation of place) for the employment and residence factors suggests to me that we are dealing with similar phenomena. For these reasons, I believe that we can tentatively proceed under the assumption that the residence effects are due to residence and not education type.

Essentially, we have dual findings that linguistic production is correlated with the degree of contact one has within a metropolitan area, and that the degree of contact one has within a metropolitan area is correlated with aspects of one’s place-based identity. At first glance, this appears to set up a syllogism: given our results, we would conclude that linguistic production is linked to place-based identity. That is, older speakers make use of the north and lot vowels to index their attitude toward the city, and younger speakers make use of the trap vowel to index their attitude toward suburbs. This view would echo approaches to linguistic variation as stylistic practice (Eckert 2008), and there is certainly precedent for this interpretation with respect to place.

Reed (2016), for example, shows how price monophthongization and the use of rising pitch accents correlate with speakers’ rootedness in a small Appalachian community. His analysis makes reference to population flows as well. He notes that older speakers score higher for rootedness than younger speakers. Reed (ibid.) suggests that because the community in question has lost a great deal of its population in recent decades, this discrepancy in rootedness scores is likely because the remaining older speakers are those who are rooted in the community, whereas less rooted younger speakers have not yet had the opportunity to leave. Interpreting our results as showing place-based stylistic practice thus puts us in good company.

I argue, however, that this is not the full story. The production data truly looks like it shows contact effects; the pattern we see is what we would expect to see if speakers were accommodating to the speech patterns of those they were in contact with. We should not discount these effects in our interpretation of results. For this reason, I suggest that the production-identity link is indirect and mediated by contact. This raises the question of how to understand the link between contact and identity.

Let us begin by considering how speakers enter into contact in the first place. Previously, I focused on market- and policy-driven reasons. For example, some industries, such as the biotechnology industry in Greater St. Louis, are limited in location, and workers in those industries must work in specific locations. Regardless of where these speakers live, they need to commute to these locations. With respect
to residence, some individuals, particularly African Americans, are excluded from parts of the housing market, limiting where they can live.

However, the marketplace is not the sole factor that influences where individuals live and work, because contact is not solely market-driven. Personal choice plays a role as well. Individuals, particularly white middle class individuals, may have a choice of affordable and available housing in multiple locations within a region. Furthermore, because American metropolitan areas like Greater St. Louis are strongly automobile-reliant, individuals with access to a vehicle are able to travel anywhere within the region for work. This means that individuals have a degree of choice in where they live, meaning that migration from the city to suburbs is not merely a policy result.

Similarly, decentralization of metropolitan areas (and more generally, demand for local services) makes several types of employment like teaching, nursing, retail, etc., in demand throughout the region. For many individuals, this means that there is an element of choice in where they work as well. Consider the case of Sarah W., who lives in St. Charles County and is a high school teacher in St. Louis County. She has a reasonably high-demand occupation, and as such could find employment in either county. At the same time, she could quite easily find housing near her workplace. She has thus made two choices: to work in St. Louis County, and to continue to live in St. Charles County. Noting a role for choice is not to claim that market forces play no role in location of occupation and residency. Rather, there are market- and desire-driven factors. Indeed, for many speakers the market-driven factors will likely prove as strong as or stronger than any desire-driven factors. However, the sample of white, middle class women discussed here is afforded more freedom in housing and employment by market forces than speakers from other demographic groups, and as such has more room for desire-driven choice with respect to these.

I suggest that speaker identity is one such desire-driven factor that influences where one lives and works within the area. What we ultimately find is that contact is tied to evaluation of urban/suburban space in Greater St. Louis, and as such, I suggest that contact is tied in part to one’s place-based identity. There is a bit of a chicken-and-egg situation here – does identity influence contact, or does contact influence identity? Because this finding applies not only to St. Charles County residents, but also South St. Louisans who left the city, I argue we have the former situation. In the city, having strong positive opinions about the city could convince an adult to remain in the city rather than move to the suburbs. Likewise, having negative opinions of the suburbs could convince a young adult in St. Charles County to look for a job closer to the city, even if it is still in St. Louis County and even if they could find a similar job in St. Charles County. In these ways, having opportunities for contact is mediated by one’s disposition toward the city and suburbs.
This means that in some respects, we should view contact within the metropolitan area an outcome of stylistic practice. Here I expand Eckert’s (2008) discussion of how identity is expressed through linguistic practice to extend to social practice as well. In this interpretation, individuals express identity and their urban/suburban dispositions through their social acts within the region, including where they choose to live and work. Accordingly, older speakers who grew up in the city and choose to remain or leave are indexing their attitude toward the city. Likewise, suburbanites who choose to commute or to work close to home are indexing their attitude toward suburbs.⁶

This is somewhat like Eckert’s (2000) comparison of fashion choices among jocks and burnouts in a suburban Detroit high school, as well as her (2010) observation of pre-adolescents learning to express themselves through fashion or behavior. Note, however, that in the latter situation Eckert (2010) still directly connects linguistic practice to identity. In contrast, I wish to solely emphasize the link between social practice and identity.

This approach yields our indirect link. The choice of where to live and/or work indexes identity, which results in speakers’ choices leading to differing degrees of contact. Because this means that speakers are encountering more or less conservative speakers, the patterns of variation that we find really are contact effects. As such, I do not suggest that speakers are drawing upon the linguistic features under study to engage in stylistic practice; an NCS TRAP vowel for St. Charles County speakers who work in St. Louis County is not stylized practice that reflects place-based identity. But the fact that contact arose in the first place is a case of such stylization. This stylized social practice then led to contact effects. In this way, identity indirectly plays a role in metropolitan linguistic variation.

7. Conclusion

In this paper, I have explored linguistic variation in what in most respects amounts to a metropolitan dialect in Greater St. Louis. This dialect is changing; suburbs are leading the city in retreat from traditional urban features (Duncan 2019). As such,

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⁶. Eckert (2000) specifically describes the territorialization of space by jocks and burnouts, both within the school premises and the neighborhood at large. An anonymous reviewer asks whether a focus on such territorialization might improve this analysis over the more general reliance here on ‘identity.’ In the context of Eckert’s work, usage of space is just one of multiple ways in which students index social categories. As such, it is simply one form of social practice. For this reason, it seems less than prudent to privilege territorialization over other forms of social practice, particularly given the limited forms and quantity of data available here.
the metropolitan dialect exists on a continuum in some ways, with advanced and conservative speakers. The findings from Duncan (ibid.) suggest that the poles of this continuum are distributed spatially between suburbs and the city, respectively.

However, our exploration of urban/suburban contact, operationalized as employment and residence, shows that the continuum of advanced/conservative speakers does not map perfectly to space. Rather, the degree of contact that speakers have with more or less conservative speakers within the metropolitan area proves quite important; urbanites who moved to the suburbs are less ‘city-like’ in production than their peers who remained in the city, while suburbanites who commute toward the city for work are more ‘city-like’ in production than their peers who work close to home.

We also find that whether speakers enter into contact situations is mediated by their evaluation of place, which I suggest is part of their place-based identity. Our results thus direct us toward a broader point: problematizing the identical treatment of speakers in a metropolitan area because they reside in different places (city vs. suburb, for example) is not enough. Rather, we must take into account the way metropolitan speakers interact with each other, and the reasons why they may or may not engage in such interactions. As shown here, these interactions and the identities that mediate them are themselves crucial to our understanding of linguistic variation in metropolitan areas.

References


Counterurbanisation, dialect contact and the levelling of non-salient traditional dialect variants

The case of the front short vowels in Eastern England

David Britain and Sarah Grossenbacher
University of Bern

Earlier investigations of the linguistic consequences of mobility in largely rural East Anglia in Eastern England showed a quite dramatic decline in the use of the salient traditional dialect variants. In this chapter, we present a variationist sociolinguistic analysis of a relatively unsalient linguistic characteristic of the traditional dialect of this region – the use of the /ɪ/ and /ɛ/ vowels in a small set of lexical items that take /ɛ/ and /æ/ respectively in the standard – in order to assess the extent to which salience is implicated in the levelling process. We find evidence of considerable levelling of the traditional forms nevertheless, but not to the extent that we had found for more salient variables, suggesting salient linguistic variables may indeed be more vulnerable to attrition in contexts of intensive dialect contact.

Keywords: language variation, dialect contact, dialect levelling, counterurbanisation, mobility, salience, East Anglia, mergers

1. Introduction

Over most of the past century, the dominant intranational demographic trend in the UK (and many other Northern European countries) has been counterurbanisation – a net shift of the population out of cities and into the countryside (Champion 2005a). This, along with a number of other often relatively mundane mobilities, such as increases in home-moving more generally, in commuting, in university attendance, in general travel, in mobile tertiary sector employment, in non-local consumption behaviours, etc., has caused a considerable population churn in rural areas of the country that had in earlier times been much less affected by
mobility than the cities. Once seen as the haven of the traditional dialect speaking Non-Mobile Old Rural Men (NORMs), much beloved in earlier forms of dialectology, the countryside therefore became a site of considerable dialect mixing, bringing urban and other non-local dialects into face-to-face contact with traditional rural varieties.

This chapter forms part of a larger investigation into the consequences for traditional dialect of this mobility in one part of England with a long-standing, distinct and well-described regional variety, East Anglia in the East of Southern England. This larger investigation has consisted of: (a) a multilocality variationist examination of a number of localities, large and small, across East Anglia (e.g. Britain 2021), and (b) a smartphone operated dialect survey across the region (and the whole of England) (e.g. Britain, Blaxter and Leemann 2020) to examine what effect the mobilities of the past century have had on local varieties and the extent to which the traditional dialect has survived in the face of these.

Early findings from both studies, along with recent research from other scholars (e.g. Kingston 2000, Amos 2011; Potter 2018), have shown that in many parts of East Anglia the stereotypical salient characteristics of the traditional dialect are undergoing sometimes quite dramatic attrition. One aim of this chapter is to examine the extent to which the salience of the linguistic variable may affect the rate of attrition. All of the variables examined in the project so far have been either highly or relatively salient, showing sharp social and stylistic variability, and subject to frequent overt commentary, stereotyping and comic mimicry. We pose the following question here, therefore: Are less salient traditional dialect variants also suffering such dramatic obsolescence as a result of counterurbanisation and other mobilities?

We begin here by presenting the mobilities that have affected East Anglia, along with other parts of Southern England, over the past century and then briefly outline the results of our earlier work on East Anglian English, which leads to the above question on the effect of salience. We then present an acoustic variationist analysis of a rather unsalient traditional dialect feature of East Anglian English, namely the use of the /ɪ/ vowel in words that in standard accents of English belong to /ɛ/ and the use of /ɛ/ in words which belong to /æ/ in the standard.

2. Intra-national mobilities and dialect levelling

It is difficult to overemphasise the degree of population churn that (esp. Southern) England has experienced over the past century. The late 18th and 19th centuries were characterised by population shifts out of the countryside to the city, as the Industrial Revolution drew people out of agriculture and into the factories of the ever-strengthening secondary tier of the economy. From the 1930s onwards,
however, and especially after World War II, this drift to the city reversed. From this point on, more people in England moved from the city to the countryside than vice versa.

This was partly a result of an evolving set of push factors – initially the desire both to move out of war-damaged urban neighbourhoods, as well as the establishment of government-promoted schemes to rehouse people away from poor housing (such as the Garden City and later New Town and Overspill Town movements, the linguistic consequences of which we know from the work of Kerswill and Williams (e.g. 2000)), but later due to the perception that life in the city was less safe, less secure, more individualistic, and less public-spirited, with poorer schools and fewer green areas in which to bring up a family.

There were also pull-factors: improvements in road and rail infrastructure which enabled people to live outside the city but commute in to work, the construction of new housing to meet the needs of a growing population, favourable economic conditions for setting up businesses somewhere cheaper, but also a media-fuelled image of the countryside as somewhere idyllic – beautiful, peaceful, safe, friendly, stable, community-oriented.

The statistics and scale of the counterurbanisation are quite dramatic. *Net* migration from cities to rural areas averaged 90,000 per year between 1981 and 1999 (Champion 2001: 38). Between 1981 and 2005, the number of people who moved from the cities to the countryside was roughly 2,250,000 more than the number who moved from countryside to city. It was the most rural areas of the country that gained most in percentage terms from this counterurbanisation (Champion 2005b: 91), and this trend is expected to continue: “Official population projections indicate a rise in rural England’s population by 2.57 million [by] 2025, with the most rural type of district being tipped to see the strongest growth in both absolute and relative terms” (Champion 2009: 163). This counterurbanisation shows a clear social and geographical profile. Champion (2005a) shows that:

- Counterurbanisation has proportionally affected rural settlements of the country more than it has affected smaller cities and towns (Champion, Coombes and Brown 2009);
- Counterurbanisation is the main migratory direction for all age groups except 16 to 24-year-olds. Urbanisation remains the dominant trend for this group, as a result of the pull of (urban) higher education, cheaper small-unit housing in the city, and the attractiveness of an urban lifestyle to younger people (Champion 2001: 43, 2005a: 105);
- The counterurbanising population is disproportionately wealthy and educated, working more than average in professional and managerial employment (Champion 2001: 44).
These figures demonstrate the overall direction of change, but hide a more general churn of the population as a result of routine home moves. Around one in nine English/Welsh people move every year, in other words around 150 million moves since 2000 (Office for National Statistics 2016; see also Allinson 2005: 171).

We can, furthermore, point to other social and economic forces that have triggered mundane intra-national mobility in the past decades (see Britain 2010, 2013 for more detail). One short-distance form of mobility that has been specifically cited as a trigger of dialect contact and change is commuting (e.g. Kerswill 2003). What we learn from extensive research on commuting from the British census (see, for example, Champion 2009; Champion, Coombes and Brown 2009) is the following: Firstly, over 12% of all workers commute more than 20 km per day (ibid.: 1249) – Champion’s definition of a long-distance commute (2009: 173) – but this figure is higher among rural workers – about 17% (Champion 2009: 171). Among commuters,

higher odds of a long distance commute compared with other people are found for those aged 30–44 years, males, the only or main breadwinner[,] households with two or more cars, recent migrants, those with a degree, professionals and managers, full-time employees and those working outside the primary sector. (Ibid.: 173)

In addition, there have been significant increases both in the use of public transport and in automobility. The Department for Transport (2008: 14) shows that distances travelled by car increased by 1087% between 1952 and 2007.

There has been a significant increase in the proportion of jobs found in the tertiary service sector of the economy – a sector “increasingly freed from locational ties to natural resources” with “an enormously high degree of potential mobility” (Allen, Massey and Cochrane 1998: 141–142). This has been accompanied by dramatic falls in the numbers of those employed in agriculture, fishing, energy and manufacturing, and increases in the tourism, finance, business, public administration, education and health sectors (Self 2008: 52). The decline of employment in the primary sector of the economy hit rural areas especially hard – for example, just 5% of the population in rural areas is now employed in “agriculture, hunting and forestry” (Taylor 2008: 123). When employment structures change or move, this triggers significant human mobility too.

University attendance (almost always in cities) has more than trebled since 1978, according to the National Audit Office (2008: 12), but is another socially uneven mobility – lower socio-economic class groups show participation rates over 10% lower than the national average. There have also been dramatic mobility-related changes in consumption patterns, which have led to a delocalisation of service provision and increased mobility in search of services. Findlay et al. (2001) point to an increased centralisation of retail shopping outlets, shopping malls and out-of-town...
Counterurbanisation, dialect contact and the levelling of non-salient traditional dialect variants

retail parks, encouraging rural mobility. They conclude that “high levels of mobility [are seen] as being integral to [a] ‘rural’ way of life” (ibid.: 12–13). Finally, as an example of the impact of these mobilities, there has been an increase in mobile and flexible work, facilitated by transportation developments, high-speed internet, home-working, rapid connectivity and the ability of the tertiary sector to relocate to financially advantageous locations, and employment legislation (e.g. flexibility around childcare). Overall, what is therefore striking about this mobility is that it is quite sharply socially stratified – disproportionately middle class mobilities – and they have affected the deeper rural areas of the country more dramatically than elsewhere.

What is the impact of these mobilities on dialect variation? Firstly, it is quite evident that these mobilities of the past decades have brought local rural traditional dialects into much greater day-to-day contact with other varieties (and languages) (Britain 2017), not only from other parts of the region, but also from the big cities and further afield. The disproportionately middle class nature of these mobilities means that many of these dialects coming into contact with local varieties are more standard-like and/or typical of the more koineised, supralocal regional varieties that have emerged over the past half century (Britain 2010). These varieties are then fed into the local dialect feature pool, and their dialect features compete with local features in the community, but perhaps most intensively in the schools where local kids mix with the ever-greater numbers of incomer children from near and far.

We know from existing literature on dialect contact (e.g. Trudgill 1986), and the effects of mobility on social network structure (Milroy and Milroy 1985), that this is a recipe for potentially rapid language change. It is now well-established that mobility has the effect of disrupting strong social network ties and encourages a greater number of weaker ties. This leads, consequently, to a susceptibility to change from outside core local networks and a weakening of local dialect norms (L. Milroy 1987; J. Milroy 1992; Milroy and Milroy 1985). The rural population churn and other mobility-inducing demographics, especially of the past half century, are not at all conducive to the kinds of dense, tight-knit social network structures that would encourage the maintenance of traditional dialect norms.

Research on dialect contact in such circumstances has led us to expect a typological cluster of typical changes (Trudgill 1986, 2004b; Britain 2018), most prominently dialect levelling, whereby regionally or socially marked and/or stigmatised features are avoided in favour of dialect variants that are more widespread, less marked. One could predict, therefore, on this basis, that especially prominently marked traditional local dialect features in the rural areas so significantly affected by such mobility may well fare poorly.

There is an increasing amount of evidence that this is the case – both Piercy (2006, 2010) and Grossenbacher (2016) have demonstrated the dramatic nature
of dialect levelling in the rural South-West. Piercy examined a range of different
variables in Dorset, and Grossenbacher specifically looked at the fate of rhoticity
(the realisation of non-prevocalic /r/ in words such as car and park), an icon of
the accent of the south-west, across the area. Interestingly, Grossenbacher found
that rhoticity was best preserved in the largest city of the area, Bristol, and that
there was a statistically significant tendency for rhoticity to be found most in large
urban areas, and least in the most rural areas – rather surprising, given the stere-
otypical assumption that traditional dialect speakers are most likely found in the
deep countryside.

3. Dialect levelling and Short Front Vowels in East Anglian English

The wider project that this chapter draws from attempts to examine the impact of
the kinds of mobilities described above on another largely rural area of England,
East Anglia, to the north and north-east of London. In order to chart the effects
these demographic changes have had on the traditional dialect of East Anglia, a
multilocality corpus was built of recorded conversations from a wide range (ten at
present) of smaller and larger localities across largely rural East Anglia in Eastern
England. In each of these localities a corpus of at least twelve speakers (six old
(60–70 years), six young (18–28), six male, six female) was collected and tran-
scribed. We explicitly did not want, at this stage, to investigate the varieties that
the counterurbanisers had brought with them from the South-East of England, but,
instead, the effects of their arrival on the local population and on the long-standing
traditional dialect of the community. Consequently, all of our speakers across all of
our corpora had been brought up in their respective towns or villages. An analysis
of a range of different linguistic variables is currently underway from across these
datasets (e.g. Britain 2021).

Other scholars have also been investigating ongoing dialect shift for specific
variables in different individual localities across the region (e.g. Kingston 2000;
Amos 2011; Potter 2018). To complement the findings of this locality-based study,
we have also been able to draw on the findings of the English Dialect App (Leemann,
Kolly and Britain 2018; Britain, Blaxter and Leemann 2020), a smartphone-based
dialect survey which was able to collect information from across the region about
the use of certain linguistic variables.

To date, four linguistic variables have been examined from the larger East
Anglian spoken corpus in the relevant localities, the first three of which are espe-
cially salient East Anglianisms:
- The use of third person present tense zero, as in *the girl take, he talk*. This was a showcase variable in Trudgill’s investigations of the dialect of the city of Norwich (1974), and about which he has written extensively (e.g. 1998; see also Rupp and Britain 2019).
- The use of *what* as a subject and object relative pronoun, as in “I sold the car to the man *what* lives in the next village”, and “We saw the Aussie *what* she danced with at the party” (see further Britain 2021).
- The deletion of the palatal glide after non-coronal consonants. It is not uncommon in some British varieties for /j/ to be deleted after coronals (e.g. *news [nuːs]*) but in East Anglia it is traditionally deleted after all consonants (e.g. *view [vuː], few [fuː], beauty [buːʔi], huge [huːʤ]*)
- Somewhat less salient, perhaps, is the use of */ə* rather than */ɪ* in unstressed syllables, such as *wanted [wɒnʔəd], running [ɹʌnən]*, and *glasses [ɡlaːsəz]*.

The results of the multilocality analysis, work by other researchers on the same variables, and evidence from the English Dialect App all showed the same trends for these variables. For the first three, there has been a fairly dramatic reduction in the use of the traditional dialect variant, and the decline has been greater for all three in the more rural rather than the more urban localities, suggesting that those areas that have been more heavily impacted by counterurbanisation and the other mobilities mentioned above took the harder hit to the vitality of their traditional dialect.

Both the multilocality survey and the smartphone app were able to track the decline in the use of the traditional variant across apparent time, and the app was also able to provide evidence of the attrition of local lexis too. Results from both surveys also suggested that the less salient use of */ə* in unstressed syllables was obsolescing more slowly than the other traditional dialect variants investigated (see also Potter 2018), and was faring better in the East of East Anglia than the West. This hinted at the possibility that the less the traditional variants are salient, the less quickly they will be levelled away.

For this chapter, therefore, we wanted to investigate a relatively unsalient traditional variant of East Anglian English, explore whether it is undergoing levelling, and if so, how rapidly. The feature concerned affects East Anglian English’s front short vowel system and involves certain lexical items not ‘belonging’ to the same phoneme as in Standard English. In order to describe the variable, we use Wells’s (1982a) lexical set classification system for the English sound system. Wells (ibid.) uses the labels *kit, dress* and *trap* to classify the phonemes */ɪ/, */ɛ/ and */æ/ respectively in English. So, *kit*, in Standard English, is used to classify the vowels in *bit, fit, skin, myth, build, guilt*, etc., *dress* for the vowels in *bet, egg, bread, dead, many, friend, says*, etc., and *trap* for the vowels in *tap, cat, back, lamp, tax*, etc.
In traditional East Anglian English, however, the distributions of lexical items across these three has differed from that in Standard English. There, a number of words are in the lexical set with a higher vowel than the one they would belong to in Standard English. Some lexical items belonging to trap in Standard English are in dress in East Anglian English, and some in dress in the standard accent are in kit in East Anglia. Wells (ibid.) indeed points to different category membership as a not infrequent characteristic of the distinction between traditional and more modern varieties of English:

I should suggest that one important distinction between speaking traditional-dialect and speaking General English with a given accent is in fact phonological. More exactly, it is a matter of the phonological specifications of lexical items, that is of the lexical incidence of particular phonemes in particular words.

(Ibid.: 5, our emphasis)

This characteristic of East Anglian English is not at all salient amongst East Anglians themselves. During the recording sessions for our corpus we asked about noticeable local dialect features – this one was not mentioned once. It is, however, perhaps not surprising that it rarely rises to overt consciousness. Essentially, what is involved here is a rather abstract phonological distinction between (traditional) East Anglian English and Standard English: the membership of /ɪ/ and /ɛ/ is (subtly) different. Eckert and Labov (2017), in an article on what kinds of phonological change attract indexical social meaning, argue that “change in the more abstract levels of phonological organisation is not likely to generate social meaning” and that “the details of a lexical split that distinguish one dialect from another are hidden from the speakers who follow this pattern” (2017: 491).

Before we go on to describe this lexical incidence for East Anglian English further, it is worth mentioning that the front short vowels, especially in southern British English, were relatively high anyway in the 19th century and have been falling, and, in the case of dress and trap, backing in many varieties of British English (see Wells 1982b; Trudgill 2004a; Cruttenden 2014: 85). Our investigations of this lexical incidence, therefore, need to be sensitive to these general trends as we investigate the fate of the lexical incidence differences. Eckert and Labov (2017) claim that chain shifts also rarely raise their heads high above the social radar, perhaps, in this case, also sheltering any changes in the East Anglian configuration of the front short vowels from social comment.

To complicate things further, the list of words in the non-standard class appears to have been in flux over time. Alexander Ellis’s survey of 1889 provides us with some detail about these lexical class differences in East Anglia, thanks to his transcribed reading passages and word lists. His analysis is sensitive to the general variability of front short vowel height that we mentioned earlier (for example,
he distinguishes between [e], [ẹ- ẹˑ], and [ɛ] realisations of some dress words (e.g. any, hisself and wet (ibid.: 280) are transcribed as [e] (=e), [e], ([ẹ- ẹˑ]) and {E} ([ɛ]) respectively, but he is also clear when some lexical items belong to the vowel class ‘higher’. In East Anglia he finds the following belonging to kit rather than dress: get, thread, ever, kettle, seldom, men, head, heaven, devil, friend, breast, again, red, together, drench; and the following belonging to dress rather than trap: have, carrot, fag (ibid.: 264–287).

More evidence about the earlier state of these vowels in East Anglia comes from Kökeritz’s (1932) work on Eastern Suffolk. He finds kit in the following words: bless, bread, breast, cell, cellar, cemetery, chemical, chest, engine, ever, every, fennel, friend, general, genuine, get, head, heaven, heavy, hedge, hen, instead, kettle, lead, meadow, melon, men, nest, never, ready, red, seldom, set, shed, shell, steady, thread, together, tread, wren, yes, yesterday, yet; and dress in ankle, ashes, axe, back, cabbage, canal, cap, carry, catch, channel, clap, clash, fat, gang, hang, January, land, man, radish, salary, sand, scatter, thank, thatch (ibid.: 9–10).

The Survey of English Dialects (SED) (Orton et al. 1962–71) shows that have is realised with the dress vowel not only in East Anglia, but also the far north and far south-west of England. Furthermore, the following from the Basic Materials of the SED are found to be members of kit in at least some parts of East Anglia, though only those underlined were found in more than eight SED localities (bread, breakfast, breast, chest, dregs, ever, get, head, headache, headland, hedge, hedgehog, kettle, lead (the metal), left, let, meadow, neck, pen, ready, red, shed, shedding, shepherd, sledge, ten, thread, went, west, wet, yellow, yes, yesterday).

Similarly, the following are found as members of dress at least in some parts of East Anglia: active, adder, ankle, ants, anvil, ashes, axle, badger, barrel, barren, bat, blackberry, brand, carrots, catch, cattle, chapped, chat, clamp, dandelion, fat, flap, gander, hammer, has, have, hand, jacket, ladder, lamb, lamp, mallet, married, pantry, rabbit, ram, rat, sack, saddle, Saturday, shallow, stack, stallion, tag, thatching, wagon, wrap.

1. See Eustace (1969: 51–71) for a ‘translation’ of Ellis’s transcription system, and particularly these three of his vowel symbols, into IPA.

2. Ellis (1889), Kökeritz (1932), and the SED (Orton et al. 1962–1971) all also talk of some lexical items that belong to the dress lexical set in standard accents but which use trap in East Anglian dialects, and lexical items which belong to the kit lexical set in standard accents but which use dress in East Anglia – Kökeritz (1932), for example, in his study of Eastern Suffolk found reckon, twelve, well, celery to variably be realised with a trap vowel (ibid.: 9) (but which would be realised with dress in standard accents), and bridge, fill, fist, mill, and ridge to be realised with dress (ibid.: 13) (but which would be realised with kit in standard accents). We do not find this in any of our contemporary data, so do not discuss it further here.
More recently, this variable has been briefly discussed by Trudgill (2004a). Talking about the traditional dialect of Norfolk, he notes that

the kit vowel occurred [in] words, such as get, yet, head, again. There is little predictability as to which items have or had the raised vowel, but in all the words concerned the vowel was followed by /n/, /t/ or /d/. [...] In older forms of the dialect, /ɛ/ occurred not only in the expected bet, help, bed, etc., but also in a number of items which elsewhere have /æ/, such as catch, have/has/had. (Ibid.: 166)

He is also the only person to note that this lexical alternation may well be under threat: “The modern dialect has seen increasing dedialectalisation through a process of transfer of these words from /ɪ/ to /ɛ/ [...] words such as [...] have [...] have been transferred to /æ/ in the modern dialect” (Trudgill 1996: 471–472).

To summarise, then, the previous literature on this variable appears to suggest that, although dress and trap were once realised with higher vowels in Southern British English than they are today, some lexical items that are realised as dress and trap in standard accents have been realised with kit and dress vowels respectively, but that the number of words in the non-standard ‘higher’ set is shrinking. In order to facilitate discussion of these non-standard sets, we will henceforth refer to the set of words that are in dress in the standard, but kit in the traditional dialect as the get set (after its most frequently occurring member) and the set in trap in the standard but dress in the traditional dialect as the have set, for the same reason.

Two questions will be addressed here in order to assess the nature of change, if there is any:

a. Which lexical items, in the contemporary dialect, still belong to get and have?

As we have seen, the list of lexical items belonging to get and have in studies of NORMs (typical of traditional dialectology studies), such as Ellis (1889), Kökeritz (1932) and the SED (Orton et al. 1962–71) was rather large, though there have been no empirical studies conducted on this feature since and so we do not know what has happened to the size of the get and have lexical sets for speakers born after the beginning of the 20th century.

b. If the traditional dialect is being levelled in favour of a more standard-like system, and get and have are being eroded as lexical sets distinct from dress and trap, this suggests a merger of get and dress and of have and trap. But what sort of merger? A number of different types have been proposed in the literature. Labov’s (1994) extensive discussion of mergers in his Principles of Linguistic Change Volume 1 offers some potential suggestions. Merger by approximation occurs when one sound gradually shifts phonetically in the direction of another sound until they entirely overlap. Merger by expansion occurs when the two sounds undergoing merger simply converge and together
take up the same phonetic space that was once covered by the two distinctive sounds. Merger by transfer occurs when individual lexical members of one class switch from the old sound to the new one, in the fashion of lexical diffusion. A class switch of one lexical item would leave the original set with one fewer member, the destination set with one more, but with the two sets remaining phonetically distinct until all members of the old set have made the leap to the destination set. Trudgill (1996) has argued that the dedialectalisation of get and have has proceeded by merger and by transfer.

In order to begin to answer these questions, we analysed the data from one of the corpora in our larger East Anglian database: from the village of Holbrook. Holbrook is located on the Shotley Peninsula, 8 km south of the large town of Ipswich in Suffolk. Although it is a small rural village, its transport connections are much better than many in East Anglia, with good nearby road and rail connections to London. Like many such ‘well-connected’ villages, it had experienced considerable demographic growth since 1945 – the population remained between 700 and 800 throughout the second half of the 19th century, climbed to 950 in 1930, 1080 in 1960 and today is over 2000. And like many rural settlements in the South of England today, agriculture plays a minimal role economically – just 2.3% of the working population is employed in farming, forestry, fishing or mining (cf. 44% in 1881), while 52% are employed in managerial and professional roles in the tertiary sector of the economy (cf. 10% in 1881).

We chose Holbrook to begin our investigations of this variable since it demonstrated the lowest levels of surviving traditional dialect features of all the locations in our East Anglian survey so far – young speakers in Holbrook had no third person present tense zero, no examples of relative pronoun what (Britain 2021: 106) and very low levels of palatal glide deletion and unstressed syllable [ə]. Furthermore, Grossenbacher (2013) found that the use of standard [aʊ] (as opposed to [ɛʊ]) realisations of the MOUTH diphthong was much more advanced than in neighbouring urban Ipswich. If get and have survive in Holbrook, it is then highly likely that they are more vigorous in the other locations of East Anglia that we investigated.

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3. Source: visionofbritain.org.uk (3 February, 2021)
4. Source: suffolkobservatory.info (3 February, 2021)
5. Source: nomisweb.co.uk (3 February, 2021)
6. We did not investigate this feature in the English Dialects App. This was largely because we wanted, in the App, to focus on variability that had national rather than very local currency, but also, frankly, because this variable was so far under the radar that it didn’t cross our minds to do so.
4. Methods

The Holbrook recordings from the East Anglia Corpus consisted of twelve recordings solely of locally born and raised speakers – the Holbrook data, like the rest of the corpus, deliberately does not include in-migrants. The interviews ranged from 40 to 57 minutes and totalled more than ten hours of informal conversation. Two age groups were selected for analysis: six young speakers between 19 and 24 years of age, and six old speakers between 65 and 82 years of age. All were recorded by a young male Holbrook-born resident of the village.

The analysis of get and have began with an auditory investigation, and was then followed by an acoustic analysis. The auditory examination of the data was to establish which words still belonged to the get and have sets in the contemporary dialect. All get and have words from the lists drawn from Ellis (1889), Kökeritz (1932) and the SED (Orton et al. 1962–1971) were examined in the Holbrook data. This showed that the get and have lexical sets have indeed shrunk considerably relative to these earlier lists. In Holbrook, we find just:

- **get**: again, forget, forgets, get, gets, getting, yesterday
- **have**: (stressed auxiliary) can, (stressed) had, has, have, having

Clearly, then, there has been levelling of this traditional feature at one level – the membership of the relevant lexical sets has shrunk.

In order to track the development of the vowels as precisely as possible, we carried out an acoustic analysis in Praat. Unfortunately, some of the members of get and have occurred too infrequently in the data – there were, for example, just 17 auditorally analysable tokens of stressed can, two of yesterday and eight of forget(s). The acoustic analysis therefore included tokens of get, gets and getting for get as well as stressed have, having, has and had for have. In order to assess the position of get and have relative to the standard lexical sets, we also analysed kit, dress and trap. Tokens of fleece and pre-/a/ goose were included as further reference vowels.

All vowels for which there was a clear formant structure were used in the analysis, excluding tokens with liquids, nasals and following velars for trap (following Di Paolo, Yaeger-Dror and Wassink 2011). F1 and F2 were measured in the middle of the steady state area of the vowel in the spectrogram. In total, we analysed 1,671 tokens, resulting in 82 to 181 tokens per speaker. Raw data were normalised using the modified Fabricius and Watt metric (Fabricius, Watt and Johnson 2009) implemented by the NORM Vowel Normalisation Suite.


8. [http://lingtools.uoregon.edu/norm/norm1.php](http://lingtools.uoregon.edu/norm/norm1.php).
In a first step, we used RBRUL\(^9\) (Johnson 2009) to run mixed effects models to analyse the influence of age on F1 and F2 of the vowels, including speaker as a random effect. However, when it comes to vowel mergers (such as potentially kit–get, dress–get, dress–have and have–trap), these results are difficult to interpret meaningfully, since we can only consider F1 or F2 separately, and are not able to capture the actual amount of overlap (see Di Paolo, Yaeger-Dror and Wassink 2011 for more details).

Thus, we also used the Pillai-Barlett trace (henceforth Pillai score), an output of a Multivariate Analysis of Variance (MANOVA), which allowed us to include both F1 and F2 as response variables. The Pillai score represents the extent to which the contrast between our lexical sets is statistically significant. Resulting values range between 0 and 1. Higher Pillai scores, i.e. values close to 1, indicate a vowel distinction, whereas lower values close to 0 indicate vowel mergers (see e.g. Hall-Lew 2010). We determined Pillai scores and the corresponding p-values for each speaker as well as the speaker groups, including age and gender. These Pillai scores were then entered into an ANOVA with gender, age and speaker group (i.e. a combination of gender and age) as independent variables.

5. Results

The overall results suggest that most of the short front vowels have changed over time, not just get and have. Figure 1 shows the position of get and have relative to fleece (/iː/, as in keep and meat), pre-/l/ goose (/uː/, as in school and pool), kit, dress and trap for young and old speakers. Kit shows an effect of age with significant backing for the younger speakers (\(p < .05\)). Similarly, dress is also backing (\(p < .05\)), and so is trap (\(p < .05\)). Interestingly, have seems to follow this tendency and shows significant backing (\(p < .05\)) too. Get, in contrast, shows less movement – the change in F1 and F2 is not significant. Overall, no significant effects were found regarding F1, suggesting that the height of the vowels has not changed that much over time. Figure 1 and Figure 2 show that get and – possibly to a lesser extent – have remain separate lexical sets for most speaker groups. Get is generally higher than dress and lower than kit and have is lower than dress but mostly not as low as trap.

Figure 1. Overall mean F1 and F2 of fleece, kit, get, dress, have, trap and pre-/l/ goose according to the two age groups.
Figure 2. Overall means for F1 and F2 of the investigated vowels according to the age + gender speaker groups
These results, from both old and young speakers, suggest not only that get and have remain distinct at a community level in Holbrook from dress and trap respectively (suggesting a ‘survival’ of the traditional form), they are also apparently distinct from kit and dress respectively. This latter result is hard to interpret, at this stage of the analysis, as we have no acoustic evidence from earlier times to show, for example, that kit and get, on the one hand, and dress and have, on the other, were indeed ever actually fully merged.

Looking at the means alone, however, does not tell us much about the extent to which these vowels actually overlap. In the following sections, we will discuss the position of get and have in more detail, taking into account Pillai scores and individual vowel plots.

5.1 get

Table 1 presents the results for the speaker groups considering the overlap between kit–get and get–dress. With regards to kit–get, old male speakers have the smallest Pillai score (0.151), suggesting that the overlap between their kit and get vowels is the greatest, whereas old female speakers have the greatest distance between the two. Importantly, however, all speaker groups have a significant difference between these vowels.

The same is the case for get–dress. Here, old female speakers have the smallest distance, whereas young men have the highest Pillai score, suggesting greater distance between their get and dress vowels. In other words, overall, get is distinct both from kit and dress. The results of a one-way ANOVA revealed no statistically significant difference among the four groups for their kit–get Pillai scores, ($F(3, 12) = 3.297, p = .0787, \eta^2 = 0.553$). Similarly, no significant difference among the four groups was found for their get –dress Pillai scores ($F(3, 12) = 3.361, p = .0757, \eta^2 = 0.558$).

For both kit–get and get–dress, age did not seem to be a significant predictor ($F(1, 12) = 0.274, p = .612, \eta^2 = 0.027$ and $F(1, 12) = 2.594, p = .138, \eta^2 = 0.206$ respectively). Gender, in contrast, was found to have a significant effect on the Pillai score for kit–get ($F(1, 12) = 9.292, p = .0123, \eta^2 = 0.492$), but not get–dress ($F(1, 12) = 3.704, p = .0832, \eta^2 = 0.27$). Hence, female speakers have a significantly greater distance between kit and get in comparison to male speakers (see Table 2).
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Table 1. Pillai scores for KIT–GET and GET–DRESS according to speaker group

<table>
<thead>
<tr>
<th>Group</th>
<th>KIT–GET</th>
<th>p</th>
<th>GET–DRESS</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old male</td>
<td>0.151</td>
<td>&lt; .001</td>
<td>0.481</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Old female</td>
<td>0.526</td>
<td>&lt; .001</td>
<td>0.113</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>Young male</td>
<td>0.21</td>
<td>&lt; .001</td>
<td>0.611</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Young female</td>
<td>0.339</td>
<td>&lt; .001</td>
<td>0.492</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

Table 2. Pillai scores for KIT–GET and GET–DRESS according to gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>KIT–GET</th>
<th>p</th>
<th>GET–DRESS</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.426</td>
<td>&lt; .001</td>
<td>0.265</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Male</td>
<td>0.171</td>
<td>&lt; .001</td>
<td>0.522</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

The Pillai scores for each speaker are shown in Table 3. In order to understand more about the vowel distributions, it is worth looking at the Pillai scores of individual speakers and their corresponding vowel plots. With regard to KIT–GET, the results ranged from Pillai scores of 0.591 (a 65-year old female, the speaker with the biggest difference between KIT and GET) to 0.086 (a 21-year old male, the most merged speaker). Importantly, only two speakers (Male-21, Male-74) have no statistically significant difference between KIT and GET, suggesting that these two speakers do indeed have a KIT–GET merger. The plots of these two speakers are shown in Figure 3, whereas the plots for the speakers with the greatest KIT–GET differences are presented in Figure 4.

Table 3. Pillai scores for KIT–GET and GET–DRESS for each speaker (NS = not significant)

<table>
<thead>
<tr>
<th>Gender</th>
<th>KIT–GET</th>
<th>p</th>
<th>GET–DRESS</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male-82</td>
<td>0.320</td>
<td>&lt;.001</td>
<td>0.305</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-74</td>
<td>0.17</td>
<td>NS</td>
<td>0.741</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-69</td>
<td>0.25</td>
<td>.001</td>
<td>0.592</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female-69</td>
<td>0.48</td>
<td>&lt;.05</td>
<td>0.456</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Female-66</td>
<td>0.446</td>
<td>&lt;.001</td>
<td>0.132</td>
<td>NS</td>
</tr>
<tr>
<td>Female-65</td>
<td>0.591</td>
<td>&lt;.001</td>
<td>0.22</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Male-21</td>
<td>0.086</td>
<td>NS</td>
<td>0.671</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-23</td>
<td>0.385</td>
<td>&lt;.001</td>
<td>0.668</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-24</td>
<td>0.31</td>
<td>&lt;.05</td>
<td>0.536</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female-19</td>
<td>0.552</td>
<td>&lt;.001</td>
<td>0.58</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female-20</td>
<td>0.366</td>
<td>&lt;.001</td>
<td>0.49</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female-21</td>
<td>0.278</td>
<td>&lt;.001</td>
<td>0.517</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
Figure 3. Vowel plots of the two speakers with the lowest Pillai scores for get–kit, 0.17 and 0.086

Figure 4. Vowel plots of the two speakers with the highest Pillai scores for get–kit, 0.591 and 0.552
Not surprisingly, those speakers who had the most merged kit–get also had the highest Pillai scores for get–dress, i.e. the greatest distance between these two vowels (see Figure 3, and Table 3). One of the most distinct speakers with regard to kit–get, namely Female-65, had a very low Pillai score for dress–get (0.22), suggesting that these vowels are relatively close, but still significantly different ($p < .05$). The other speaker in Figure 4, Female-21, has a relatively high Pillai score of 0.58, which is not surprising, given the fact that her get vowels are between kit and dress with only a very small overlap with either. Only one speaker has no statistically significant difference between get and dress (see Figure 5). Note, however, that even for this speaker, get is not completely merged, since there are still a number of get tokens that are higher than most dress tokens.

![Figure 5. Vowel plot of the speaker with the lowest get–dress Pillai score, 0.132](image)

Figure 5. Vowel plot of the speaker with the lowest get–dress Pillai score, 0.132
5.2 HAVE

Table 4 presents the Pillai scores for the speaker groups with regard to dress–have and have–trap. Similar to above, all speaker groups maintain a difference between the vowels, suggesting that neither dress–have nor have–trap are completely merged.

For dress–have, old male speakers tend to have the smallest Pillai scores, whereas young female speakers have the highest values, suggesting that their dress–have distance is the greatest. Not surprisingly, the opposite is the case for have–trap. Note, however, that the results of a one-way ANOVA showed that the Pillai scores among the age + gender groups do not differ significantly ($F(3, 12) = 2.681, p = .118, \eta^2 = 0.501$ for dress–have and $F(3, 12) = 2.247, p = .16, \eta^2 = 0.457$ for have–trap).

Age alone was not significant for dress–have ($F(1, 12) = 2.594, p = .138, \eta^2 = 0.206$), but it was for have–trap ($F(1, 12) = 5.546, p = .0403, \eta^2 = 0.357$). The Pillai scores according to the age groups are presented in Table 5. These results reveal that young speakers have significantly smaller Pillai scores, suggesting that their difference between have and trap is smaller than that of the older speakers. The difference between male and female speakers was not significant ($F(1, 12) = 2.047, p = .183, \eta^2 = 0.17$ for dress–have, and $F(1, 12) = 0.965, p = .349, \eta^2 = 0.088$ for have–trap).

The Pillai scores for each speaker are shown in Table 6. Generally, the Pillai scores for dress–have ranged from 0.059 (the speaker with the greatest overlap of the two sets) to 0.716 (the speaker for whom the two sets are most distinct). Out of the twelve speakers, only two speakers (Male-74 and Male-69) had a non-significant

Table 4. Pillai scores for dress–have and have–trap according to speaker groups

<table>
<thead>
<tr>
<th>Speaker group</th>
<th>dress–have</th>
<th>$p$</th>
<th>have–trap</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old male</td>
<td>0.107</td>
<td>&lt; .001</td>
<td>0.281</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Old female</td>
<td>0.373</td>
<td>&lt; .001</td>
<td>0.234</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Young male</td>
<td>0.471</td>
<td>&lt; .001</td>
<td>0.121</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Young female</td>
<td>0.508</td>
<td>&lt; .001</td>
<td>0.064</td>
<td>&lt; .05</td>
</tr>
</tbody>
</table>

Table 5. Pillai scores for dress–have and have–trap according to speaker age

<table>
<thead>
<tr>
<th>Age</th>
<th>dress–have</th>
<th>$p$</th>
<th>have–trap</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old</td>
<td>0.197</td>
<td>&lt; .001</td>
<td>0.201</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Young</td>
<td>0.397</td>
<td>&lt; .001</td>
<td>0.044</td>
<td>&lt; .005</td>
</tr>
</tbody>
</table>
result, suggesting that their dress and have vowels are merged. The plots of these speakers are presented in Figure 6. The plots of the speakers with the highest Pillai scores for dress–have are presented in Figure 7.

Table 6. Pillai scores for dress–have and have–trap (NS = not significant)

<table>
<thead>
<tr>
<th>Speaker group</th>
<th>DRESS–HAVE</th>
<th>p</th>
<th>HAVE–TRAP</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male-82</td>
<td>0.311</td>
<td>&lt;.001</td>
<td>0.282</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-74</td>
<td>0.113</td>
<td>NS</td>
<td>0.381</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-69</td>
<td>0.059</td>
<td>NS</td>
<td>0.372</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female-69</td>
<td>0.62</td>
<td>&lt;.001</td>
<td>0.417</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female-66</td>
<td>0.241</td>
<td>&lt;.05</td>
<td>0.187</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Female-65</td>
<td>0.637</td>
<td>&lt;.001</td>
<td>0.299</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-21</td>
<td>0.208</td>
<td>&lt;.05</td>
<td>0.31</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-23</td>
<td>0.62</td>
<td>&lt;.001</td>
<td>0.298</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male-24</td>
<td>0.716</td>
<td>&lt;.001</td>
<td>0.082</td>
<td>NS</td>
</tr>
<tr>
<td>Female-19</td>
<td>0.505</td>
<td>&lt;.001</td>
<td>0.246</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Female-20</td>
<td>0.62</td>
<td>&lt;.001</td>
<td>0.019</td>
<td>NS</td>
</tr>
<tr>
<td>Female-21</td>
<td>0.501</td>
<td>&lt;.001</td>
<td>0.137</td>
<td>&lt;.05</td>
</tr>
</tbody>
</table>

Figure 6. Vowel plots of the two speakers with the lowest Pillai scores for dress–have, 0.113 and 0.059.
Male-74, who has merged dress–have, has one of the highest Pillai scores for trap–have, reflecting the fact that his have–trap are distinct (see Figure 6 and Table 6). Although Female-65 (see Figure 7, and Table 6) has a relatively high Pillai score for dress–have, her Pillai score for have–trap is relatively high too, and not low as one might expect (i.e. showing a merged vowel) – the difference between her have and trap vowels is also significant ($p < .001$), showing that have is distinct from both dress and trap in her inventory.

Only two speakers had no statistically significant difference between trap and have: Male-24 as presented in Figure 7 above, and Female-20 in Figure 8 below. Figure 8 also illustrates the plot of the speaker with the highest Pillai score (Female-69), i.e. where the difference between trap and have is the greatest. This stands in contrast to Female-20, who has the lowest Pillai score, suggesting that her have and trap vowels are merged.
5.3 Merger in progress?

These results show that HAVE and GET are distinct from the surrounding vowels: in most cases the GET and HAVE tokens were somewhere between the standard lexical sets. GET showed no effect of age, suggesting that it is relatively stable. Most speakers had a significant difference between GET and KIT and between GET and DRESS, suggesting that GET is indeed somewhere between these vowels. If we assume that traditionally KIT and GET were merged, we could argue that GET is moving away from KIT towards DRESS. Such an assumption would be strengthened, of course, if we had acoustic evidence from earlier data that the vowels were more merged than they are now. As it is, any shift of GET towards DRESS is still in progress and moving very slowly – indeed no age effects are statistically significant, and GET variability seems to be more governed by gender (with the female speakers closer to the mainstream and standard lexical distributions than the males).

We can now look at the distribution of tokens in more detail, in an attempt to establish what kind of merger may be slowly ongoing. Given the fact that the token number is limited, observing clear clusters is somewhat challenging. We observed two different patterns for KIT–GET–DRESS. One is similar to approximation, whereby the vowel cluster for GET gradually moves away from KIT as a whole, and
moves (albeit somewhat loosely) towards dress, resulting in a cluster somewhere between kit and get. This pattern is illustrated in Figure 9 (see also Male-74 and Male-21 in Figure 3, or Female-19 in Figure 4).

Secondly, some speakers seem to form two clusters for get; one that is within or very close to kit and one that is within or very close to dress. One example of this is shown in Figure 10 (see also Female-66 in Figure 5 as well as Female-65 in Figure 4), by the two distinct clusters of get tokens in the boxes, possibly reflecting a merger by transfer, the type claimed by Trudgill (1996).

With regards to have, we can observe an apparent-time change. For younger speakers, have is closer to trap than it is for older speakers. Have tokens are all relatively loosely grouped (at varying distances depending on the speaker) between dress and trap, possibly reflecting a merger by approximation.

Interestingly, both vowels seem to change at a different pace. Note that the average Pillai score across all speakers for get–dress is 0.49, whereas for have–trap it is 0.25, a difference which is statistically significant ($F(1, 12) = 13.74, p = .00123, \eta^2 = 0.384$). This suggests that the merger of have–trap is more advanced than that of get–dress.

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**Figure 9.** Vowel plots of two speakers for whom get shows an intermediate, approximation type distribution between kit and dress, suggesting merger by approximation in progress
Figure 10. Vowel plot for speaker Female-21, showing two clusters of get tokens, one overlapping with kit, the other with dress, suggesting merger by transfer

6. Discussion

We began our discussion with the question of whether especially salient local traditional dialect features were more likely to fall victim to levelling processes than less salient ones, pointing to the relative vitality of the use of schwa in unstressed syllables as possible supporting evidence. In order to consider this question, we conducted, to our knowledge, the very first acoustic investigation of this lexical incidence variable, attempting to examine the extent to which the traditional membership of these lexical sets had been retained over time, and to probe for evidence of whether the vowel realisations of this set were retaining their apparent traditional merger with a higher vowel or shifting towards, and potentially merging with the lower vowel, in a move which would have seen the traditional dialect levelled in favour of a standard phonolexical distribution. We naturally need to investigate
this unsalient variable in more of the localities from which we have data, but we deliberately chose to begin our investigations with the most levelled variety in our corpus – Holbrook – with the rationale that if this variant survives there, it is highly likely to be healthier elsewhere in the region.

Results show evidence both of levelling, but also some resistance to it, even in this most levelled locality. On the one hand, the traditional dialect, judging by studies conducted by Ellis (1889), Kökeritz (1932) and Orton et al.’s (1962–1971) SED, had many more members of the get and have lexical sets than is the case in Holbrook today. We might hypothesise, therefore, that a greater number of words may potentially survive in these lexical sets in other localities in our corpus if they are less levelled than Holbrook.

Furthermore, the analysis reveals that have, already with a very limited number of lexical members, is showing clear apparent time change towards merger with trap – young people produce vowels for the have lexical set that are statistically significantly more merged with trap than those produced by the old in the community.

The picture for get, however, is somewhat more optimistic about the health of the traditional dialect forms. Firstly, there is no statistically significant evidence of ongoing change in the direction of merger with dress, and secondly, some of the speakers with the closest traditional realisations of get and kit are young. Male-21 from Figure 3, for example, has a very small Pillai score for the difference between these two vowels, yet this same speaker has no tokens of third person present tense zero, no tokens of relative pronoun what and very few tokens of /ju/ without a palatal glide where standard accents insist on one.

Our earlier research on contemporary East Anglian English has suggested that the salient characteristics of the traditional dialect are faring badly in the face of mass counterurbanisation and other forms of population churn especially in rural East Anglia (e.g. Britain et al. 2020, Britain 2021). Evidence from both our analyses of the spoken corpora and from the English Dialect App data (Britain et al. 2020) suggests also that somewhat less salient variants, such as [a] in unstressed checked syllables, are faring better than their more salient counterparts (but are nevertheless in retreat, especially geographically). The even less salient have and, especially, get variables also appear to be faring comparatively well in this otherwise very levelled village variety. It appears, then, that salience is indeed important in helping to explain the extent of levelling in traditional dialects. This lack of salience may well derive, if Eckert and Labov (2017) are correct, from the type of variable that is being examined here. They argue that “the unobservability of paradigmatic structure appears to be a general operating characteristic of phonology and phonological change” (2017: 491). Traditionally, get and have simply belonged to different
abstract phonological classes. Levelling is, nevertheless, under way for this variable, however, and further research is needed in less levelled localities to examine what earlier stages of obsolescence may look like for this particular variable feature of East Anglian English, but these results suggest that the vitality of the traditional dialect may well be more evident for this variable than for the others investigated so far.

The results of our investigation here, and our other work on East Anglian English, suggest that the counterurbanisation which has been the dominant population trend in the area at least since the Second World War, along with the other factors triggering population churn, has had a significant effect on the local traditional dialect, one which is leading to its obsolescence in some parts of the region, and attrition everywhere. The mobilities that have triggered these changes are disproportionately middle class mobilities (Britain 2013), and it is therefore not surprising that the overall direction of change, especially in the more rural areas which have been disproportionately impacted by these demographic changes, is towards a more standard-like phonological and grammatical system. It is interesting to note that other research has suggested that non-standard features diffusing from London and the South-East into East Anglia have found its rural areas to be especially infertile ground, with features such as the fronting of /θ/ and non-initial /ð/ to [f] and [v] respectively making inroads into the urban centres of the region (Trudgill 1988), but not the rural (Potter, personal communication). Overall, then, even for below-the-radar features such as have and get, dialect levelling is ongoing, convergence is towards that of middle class varieties of the English South-East, and the impact of the dramatic demographic churn in this area on the local traditional dialect is, as we have already begun to establish, significant.

References


Language attitudes among mobile speakers
Evidence from Italian speakers living abroad

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¹KU Leuven / ²University of Bern

This paper explores the variability of belief systems that underpin standardization dynamics by investigating the effect of international mobility on attitudes of Italians towards standard and regional Italian. Research has shown that standard Italian is converging toward spoken or regional varieties, leading to the emergence of neo-standard Italian. While previous studies focused exclusively on Italians in Italy, we investigate how attitudes towards neo-standard Italian develop for Italians abroad. A matched-guise experiment carried out with Italian speakers living in Switzerland and Belgium is compared to an experiment carried out in Italy. Our results show a change in the social meaning of standardization among mobile communities, as Italians living abroad seem to neutralize the prestige that Italians in Italy attach to Milanese Italian and instead upgrade Neapolitan Italian, which had been downgraded by young Italians in the previous experiment.

Keywords: mobility, migration, standard language ideology, prestige

1. Introduction

The influence of international mobility on language attitudes, in particular on standard language ideology, is investigated in the present study with respect to the impact of migration among highly-educated speakers living outside their home countries in international contact settings. Migration and international mobility mean that speakers are in situations where languages which are not their homelands’ national languages are dominant, but also where other regional varieties than their own become dominant. This language-contact setting has been shown to correlate with processes of change. In recent years, this type of language change has been investigated in detail in the field of heritage-language research (Polinsky 2018), which has been developing rapidly across various sub-disciplines, e.g. studies on language attrition (Schmid 2011), structural linguistics (Benmamoun, Montrul

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and Polinsky 2010, 2013) and variationist linguistics (Nagy 2015). While these research areas provide comprehensive overviews on grammatical knowledge and language change in language-contact settings, less attention has been placed on the linguistically relevant dynamics in communities migrating into international (elite) contexts and their attitudes towards their homeland’s standard language and regional varieties.

This study therefore draws attention to the role of attitudes towards standard and regional language varieties, focusing on the role migration has on the evolution of these attitudes. More precisely, the study aims to answer the following questions: What effect does language contact in the new international context have on the attitudes of speakers towards (1) the national standard language, and (2) the regional varieties of their home country, when compared with speakers who did not leave their home country. An underlying assumption to these questions, in line with Coupland and Kristiansen (2011), is that language attitudes constitute a crucial factor in the attribution of standardness in language standardization processes across Europe. The combined role of attitudes and standardness lies thus in the “basic assumption […] that change in ideology is a main factor behind changes in use, and that the idea of ‘best language’ is a main factor in language standardization” (Kristiansen 2016: 95). Although appeals to language attitudes as an explanatory factor in standard language change is already a rich area of inquiry in variationist sociolinguistics (Kristiansen 2010; Coupland and Kristiansen 2011; Kristiansen and Grondelaers 2013), little is known about the relationship between attitudes and change in a mobility setting. Phenomena underlying standard language change have been documented over recent decades for several European languages, leading to what is referred to as “downward convergence” (Auer and Hinskens 1996; Auer 2005). Significantly, however, migration and mobility have not been analyzed in sociolinguistic terms. As such, the overall theoretical question underpinning the present study is as follows: How variable are belief systems that underpin standardization dynamics among highly mobile speakers who live outside their home country and in a contact situation?

As a case in point we investigate the current rich setting represented by the ongoing wave of emigration of Italian speakers to Belgium and Switzerland. The linguistic effects of previous migration from Italy to Belgium and Switzerland have been largely documented in earlier studies and international projects (see Berruto 1991; Berruto, Bluntschi and Carraro 1993; Marzo 2019). To the best of our knowledge, however, contemporary emigration has received limited scientific attention in the linguistic community. In particular, the ongoing emigration wave of highly educated Italian speakers constitutes an ideal test case for investigating its effects on standard language ideology, given its status as a recent and still ongoing
phenomenon for this sociological group. It allows for a real-time comparison between Italian speakers that leave their home country (mobile Italian speakers) and those that stay.

In line with exponents of what is termed the \textit{spatial turn}, such as Lefebvre (1991) and Massey (2005), we categorize Italian communities abroad as a singular space, specifically a “qualitative context, situating different behaviors and contending actions” (Prinsloo 2017: 366). From this standpoint, Italian communities abroad are spaces where language ideologies are constructed and where interactions with members from different regions in Italy may influence attitudes towards Italian regional varieties. In studies carried out in Italy, the convergence towards spoken, regional and informal (i.e. a regionally flavored neo-standard Italian; see Sabatini 1985; Berruto 2012, 2005; Cardinaletti 2004; Cerruti 2011) has been described on the basis of investigations into the phenomena of neo-standard Italian \textit{within} national borders (see Iacobini and Masini 2009; Marzo and Crocco 2015). Little is known, however, about how these processes evolve in Italian communities \textit{outside} Italy. In other words, the purpose of the proposed study is to analyze the effect of migration on the evaluation of the standard language and regional standards. The aim is to investigate whether the variety spoken in Milan, which has emerged in the 1980s as the most prestigious candidate for a new standard (see Galli de’ Paratesi 1984; see Section 3 for details) would also be viewed as a reference variety abroad. Results for Italian speakers living in Switzerland and Belgium will be compared with attitudes measured in recent studies in Italy (see De Pascale, Marzo and Speelman 2017).

Apart from being a breeding ground for language attitudes evolving abroad, the new wave of Italian migration is highly relevant from a broader sociolinguistic point of view. Compared to earlier waves of migration, the sociodemographic profile of the Italian emigrants has changed markedly, as they are now largely highly educated and highly skilled, and often younger. Moreover, the new pattern also involves increased mobility both on a social, physical and virtual level (see Section 2 for a detailed description). This heterogeneity, compared to earlier waves of migration, presents a pertinent context for the description of linguistic repertoires of new Italian emigrants, considering that \textit{mobility} as a sociolinguistic variable can “shed important light on the direction and social embedding of language change” (Britain 2013: 488). The present study is the first step in this direction. It focuses on international mobility in terms of long-term physical displacement, though it does not yet consider virtual mobility.

The following article is structured as follows: Beginning with the facts and characteristics of the new wave of Italian immigration, a comparison is made to previous emigration to Belgium and Switzerland in the ’50s and ’60s of the 20th
The third section deals with standard language ideology in Europe, highlighting traditional language attitude research in Italy. In the fourth section, we outline the methodology used, and the following section (Section 5) presents the results obtained. In Section 6 we discuss the results and Section 7 includes the overall conclusion, as well as plans for a further project.

2. Emigrating to Belgium and Switzerland: In the past and present

The phenomenon of Italian emigration is closely linked to social and economic events that occurred in Italy and represents an important factor in Italian history. The first major migratory waves from Italy to foreign countries date back to the period shortly after the unification of Italy, and culminate in the so-called ‘great emigration’ that occurred towards the end of the 19th century, lasting into the 1920s. After the Second World War, a further exodus occurred which reached its peak in the ’60s and ’70s. Compared to the first wave, in which migrants mainly went overseas (for example the multiple waves of emigrants to the United States, Brazil or Argentina), emigration in the ’60s and ’70s flowed to European countries such as Germany, Switzerland or Belgium, as a consequence of the economic boom during this period. A third wave from Italy to northern European countries most recently started following the economic crisis that began in 2008. According to the 2017 Italian World Report (Fondazione Migrantes 2017), the most frequent destinations of this ‘new migration’ are the United Kingdom, Germany and Switzerland.

The most significant, in terms of number of units, is the wave of emigration of the ’60s and ’70s. Switzerland was the European country with the highest rate of immigration on the continent over this period (even higher than that of the United States, the target of migration par excellence), accounting for almost half of the Italian migrants in the post-World War II period (Ricciardi 2018: 11). Following the peaks recorded in the ’60s and ’70s, however, migration to Switzerland then ceased. In fact, the number of returns exceeded those for emigration to Switzerland. Migration regained positive numbers in 2007\(^1\) with the expression of what we can refer to as the ‘new emigration wave’. The causes that led, and are still leading to this new phenomenon can be linked once again to economic factors (the unemployment rate in Italy, as an indicator of the country’s slump, doubled from a record low of 6.1% in 2006 to 12.7% in 2014). Compared to earlier migrations, however, the profile and socio-cultural background of the present migrants has changed.

profoundly. While the previous groups of migrants were characterized mostly by unskilled laborers, the ‘new Italian migration’ is rated as more heterogeneous with respect to education since it involves highly specialized workers in different sectors, as mentioned above. In fact, 30% of Italian emigrants had a university degree or equivalent in 2018 (see survey the Italian Centre of Statistics ISTAT²), and it is precisely in allusion to this that several Italian media refer to this phenomenon as a ‘brain drain’. This applies both for Italians moving abroad (e.g. Recchi, Barone and Assirelli 2016; Fondazione Migrantes 2017) and for those leaving from southern to northern Italy (Panichella 2012; Impicciatore and Panichella 2019). Typical fields of employment for these new Italian immigrants are in senior management, research institutions or university research departments (see Bianco, Krakenberger and Natale 2017, Natale and Krakenberger 2017).

In addition to their educational status, the geographic origin of the new emigrants also contributes to the heterogeneity of this group. While previous emigrants were mainly from southern Italy, current emigration registers departures from all over the country. This includes young people from northern Italy, which has been, and still is, a target for internal migration as well. Another relevant aspect that differs between the earlier periods and the recent migration settings is the higher degree of mobility, which is not only characterized by physical movement, but takes place at a virtual level as well. In the past, visits to Italy were sporadic and mainly took place during the summer months. Low-cost flights and train connections, however, now allow emigrants to return to Italy on a regular basis. In a survey conducted in 2017 in Bern among the community of the so-called cervelli in fuga (translatable as ‘brains on the run’, an ideologically-oriented term used to describe the phenomenon of the Italian ‘brain drain’), it was shown how some informants travelled to Italy on a monthly and sometimes on a weekly basis (see Natale and Kunz 2019). This allows them to maintain relationships and a strong “communicative behavior towards their home country” (Auer 2013: 20). Furthermore, virtual mobility is now highly relevant, thanks to advances in technology that allow one “to remain connected on the move and to cross borders virtually at the click of a mouse or swipe of a finger” (Hua 2017: 119). A glance at their social networks demonstrates how easily migrants nowadays can take part in ongoing political or social debates in their home country. The ‘Facebook groups’ created by Italians abroad such as Italiani in Svizzera (‘Italians in Switzerland’) and many others restricted to specific geographic areas (Italians in Zurich, Berne, Geneva etc.) all reveal that virtual participation in ongoing debates concerning Italy is very frequent. These online debates are often characterized by disputes not only between people

expressing different political ideologies, but also between members of the ‘old’ and ‘new’ Italian community, who differ with respect to their linguistic and cultural identities (Vedovelli 2018).

From a linguistic point of view, the major difference between the old and new emigrants concerns their linguistic repertoires. The emigrants of the ’60s and ’70s generally spoke dialects, and their main contact with ‘standard Italian’ was abroad. More precisely, their main language contact was with a regional variety of Italian, called popular regional Italian, when speaking with other Italians from different geographic areas (see Berruto 1991 for the case of German-speaking Switzerland and De Mauro 1970 for the impact of emigration on Italianization processes in general). By contrast, the linguistic repertoire of recent Italian emigrants reflects the substantial changes that occurred in Italy after the Second World War, showing a massive regression of dialects acquired as a first language. In a survey conducted in 2017 (see Natale & Kunz 2019) with new Italian emigrants, 64 out of 65 respondents (98.5%) indicated Italian as their first language and only 18 out of 58 respondents declared native level competence in an Italo-Romance dialect as well (31.0%). These findings are in line with surveys on language use in Italy by the Italian Centre of Statistics (ISTAT), which support the hypothesis that the most conspicuous aspect of these ‘new migrants’ linguistic repertoire involves standard Italian, or more precisely, neo-standard Italian (see Cerruti, Crocco and Marzo 2017).

The changes in migration contexts, as well as the heterogeneous sociocultural backgrounds of the migrants, present a relevant testing environment for analyses, to the extent that they could affect the language attitudes of the speakers. The impact of new forms of mobility on standard language change will contribute to a sociolinguistics of mobility, as put forward by Auer (2013), taking “into account the new, multiple migrants, the superdiversity of migratory contexts, and the typically uninterrupted flow of people, media, products and verbal interactions from and to ‘home’” (ibid.: 26).

Regarding Italian in the context of emigration to Switzerland and Belgium, a considerable number of studies have been published on phenomena involving language contact (see Rovere 1977; Schmid 1993; Dal Negro 1993), the constitution of social networks (Berruto, Bluntschli and Carraro 1993; Marzo 2019) and the dynamics of changing linguistic repertoires (see Berruto 1991). As noted above, however, attitudes as a factor in standard language change have not yet been taken into account.

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3. Popular regional Italian (italiano popolare regionale) is a low diastratic variety differing from the standard with respect to several levels of analysis (Berruto 2005).
3. Standard language ideology in Italy

As mentioned above, processes underlying standard language change over recent decades that characterize different European languages also hold true for the Italian peninsula. As with other European languages such as German or Danish, procedures of “downward convergence” (Auer 2005), that is, orientation towards orality, informality, and to a certain degree regionality, all characterize neo-standard Italian (see Cerruti, Crocco and Marzo 2017). This means that the status of standard and regional varieties has changed, thereby blurring the traditional dichotomy between standard vs. non-standard. This has caused the emergence of hybrid contact varieties through processes of convergence, as well as the constitution of regional standards. With respect to standard language change, language attitudes provide insight into processes of de- or restandardization, as belief systems are reorganized and standardization dynamics are thus reinforced (Kristiansen 2009; Coupland and Kristiansen 2011).

With regard to Italian, the actual coexistence of regional standard varieties (Cerruti 2011) does not imply that regional accents are all accorded the same prestige (Crocco 2017). Over the past five decades, attitudes towards regional pronunciations have been investigated on the basis of different methodological approaches (see De Pascale, Marzo and Speelman 2017 for an overview), all of which showed how language ideology has undergone substantial change in the course of Italian language history with regard to prestige. Starting from the distinction of four geographic macroregional varieties proposed by De Mauro (1970), who classifies the urban centers of Milan, Florence, Rome, and Naples as reference points, we can state that in the past, and up to the ’70s, the Florentine variety was conferred a high degree of prestige. This was based on its historically predominant role in the constitution of a literary and written standard. During the ’50s and ’60s, as De Mauro (ibid.) quotes, the prestige of the Roman variety increased, thereby overtaking Florentine. This development has been attributed to the influence of the motion picture industry based in Rome. In an empirical study, Galli de’ Paratesi (1984) documented a new trend in the ’80s in terms of prestige: the rise of the Milanese variety. This was associated with economic success, showing a major developing role at this level, together with northern Italian varieties, with respect to the formation of a standard pronunciation (Baroni 1983; Galli de’ Paratesi 1984; Volkart-Rey 1990). Di Ferrante (2008), in a further study involving a different frame of reference (with native and non-native accents), pointed to the lower prestige attributed to the standard pronunciation when compared to English-accented Italian, thereby testifying to further devaluation of standard Italian. In terms of prestige, the Neapolitan variety consistently occupies the lowest position in these putative attitudinal prestige rankings, as it is always associated with negative or condescending ideas.
In line with traditional language-attitude research in Europe, evaluations of prestige dimensions can contrast with the dimension solidarity. De Pascale, Marzo and Speelman (2017) showed that the Milanese accent ranks second-best, after standard Italian, among younger and middle-aged Neapolitan speakers in terms of speech prestige. However, its rankings are relatively low, especially among the older participants, on solidarity. Similar dynamics were found in other European contexts. In Belgium, studies have shown that vernaculars such as Tussentaal are downgraded on prestige (superiority) but have high scores on dynamism (Grondelaers and Speelman 2013; Rosseel 2017), a young and modern form of prestige that is considered as one of the driving forces of a number of European non-standard varieties Kristiansen (2009).

Against this background, the aim of the present study is to provide an answer to the following two research questions. On a broader, theoretical sociolinguistic level, the question is how variable belief systems are that underpin standardization dynamics among highly mobile speakers who live outside their home country and in a contact situation. On a more specific, empirical level, the main focus is to measure the current effects of the new international mobility of Italian speakers on the prestige of standard Italian and regional standards. In particular, we will investigate whether the increase in prestige of Milanese, as found in a Southern Italian community in Italy (De Pascale, Marzo and Speelman 2017), remains stable among Italians living abroad.

To this end, a speaker-evaluation experiment has been set up in two international Italian communities in Belgium and Switzerland, the results of which will be compared to the findings of De Pascale, Marzo and Speelman’s study in 2017.

4. Method

4.1 Speech stimuli

The stimuli consisted of five audio clips which included two 20 second samples of each of the four main regional Italian varieties (Milanese, Florentine, Roman and Neapolitan flavored Italian), along with a sample of standard Italian. The fragments for the regional varieties were all extracted from the spoken component of the Italian CLIPS corpus (Albano Leoni, Cutugno and Savy 2006). In these samples, male speakers are involved in so-called ‘map tasks’, that is, conversational events where one participant (who is selected for the sample) explains how to get from A to B, but using a map that contains reference points that differ to some degree, or that are differently positioned, from the map given to the other participant. The standard Italian fragment was obtained by recording an Italian diction teacher presenting the
content of a discarded audio sample in a natural way in this first pilot study. The content of the samples was not identical, as the recordings were all different sections of a map task experiment, but they were all highly similar (someone explaining the way) and neutral. On the linguistic level, the recordings differed exclusively in terms of accent (pronunciation and prosodic aspects). No lexical or morphosyntactic differences were recorded, as these might be perceived as too salient.

Although verbal guises could bring undesired individual variation to the experiment, falling back on a matched guise design was not viable, since the aim was to bring in speakers from different regional backgrounds. We therefore selected five male speakers with a very similar tone of voice, speaking in a similar rhythm. In order to achieve maximum reliability for the experimental set-up, each stage in the construction of the experiment was subjected to pilot tests. With regard to the selection of the stimuli, the aforementioned ten fragments were chosen after an initial pilot study was conducted to check whether the audio sample indexed the speaker’s regional provenance to an adequate extent, without being deemed too markedly dialectal at the same time. The organization of the samples is shown in Table 1.

Table 1. Organization of the samples

<table>
<thead>
<tr>
<th>Milanese accent</th>
<th>Florentine accent</th>
<th>Roman accent</th>
<th>Neapolitan accent</th>
<th>Standard Italian</th>
</tr>
</thead>
<tbody>
<tr>
<td>clip 1</td>
<td>clip 2</td>
<td>clip 3</td>
<td>clip 4</td>
<td>clip 5</td>
</tr>
</tbody>
</table>

4.2 Evaluative scales and factor analysis

The selected auditory stimuli were evaluated by means of a set of statements and their respective ratings on 7-point Likert scales. This started initially with 20 statements that were mainly taken from a previous experiment that was carried out in Italy (De Pascale, Marzo and Speelman 2017), in order to guarantee maximum comparability between mobile and non-mobile Italian speakers. Based on our experience with the experiment in De Pascale, Marzo and Speelman (ibid.), we included four assertions linked to the language heard in the clip. Previous guise experiments (e.g. Grondelaers and Van Hout 2010) have already proven that experiments containing both speech- and speaker-related scales yield results that are almost identical to those containing only speaker-related ones. The advantage of working with speech-related scales is that attitudes related to ‘correct speech’ as well as ‘best language practices’ can be pinpointed more specifically.

In line with De Pascale, Marzo and Speelman (2017), an initial list of 20 assertions was compiled with scales for the dimensions superiorty (this person is competent, successful, has a good job, has a university degree, speaks in a proper way),
SOLIDARITY (this person is pleasant, sociable, joking, attractive, has a nice voice),
DYNAMISM (this person is fashionable, perspicacious, self-confident, open-minded)
and INTEGRITY (this person is generous, trustworthy, honest, warm-hearted, kind).
Following a pilot test and an exploratory factor analysis, four of the speech-related scales were eliminated, because they loaded on several dimensions (i.e. speaks in a proper way, has a nice voice, open-minded and kind). The final experiment was therefore conducted with 16 scales.

4.3 Procedure

The experiment was conducted online, by means of an online survey platform (Qualtrics), which allowed us to easily rotate and present the samples in a random order. After answering the experimental scales for each of the five stimuli, the respondent had to answer direct questions pertaining to the socio-demographic background (viz. gender, age, education, province of origin in Italy) and in particular to the new contact situation (new city of residence, professional activities). The general instruction, provided for all respondents, was that they were participating in the selection of the best voice for a new travel app. No references were made to language or, more generally, the actual purpose of the experiment.

4.4 Respondents

For the present study, we selected a sample of 63 listener-judges to complete the experiment. The sample was almost equally distributed between the two countries of residence (Belgium and Switzerland), but less well distributed for the regional provenance in Italy: 20 respondents came from northern Italian regions, 28 from southern Italian regions and only 7 came from central Italy (while 8 participants mentioned another birthplace). The majority of the respondents left Italy more than ten years ago (n = 39), the other respondents have been living abroad for less than ten years (n = 24). Finally, the group of respondents was more or less equally distributed across gender (39 female, 23 male and one neutre respondent) and age (with 37 respondents between 20 and 40 years old and 26 respondents between 40 and 60 years of age).
5. Results

5.1 Factor analysis

On the ratings matrix, an initial factor analysis (performed in R; four factors were retained if their eigenvalue > 1 after applying varimax rotation) yielded a three-component solution. The model accounted for 66% of the variance of the data, but there were several problems: the scales trustworthy and modern loaded on two (trustworthy) or three (modern) factors, while the scales fashionable and generous showed an overwhelming majority of intermediate (i.e. 3’s) scores on the Likert scale (which could indicate a generalized difficulty in conceptualizing the given property for any voice). The second factor analysis, without these three scales, yielded a two-component solution that accounted for 62% of the variance of the data. This model yielded two robust factors: the first one clustered the scales related to speaker superiority and dynamism (viz. successful, competent, good job, perspicacious, university degree and self-confident), the second one clustered scales related to solidarity (viz. warm-hearted, pleasant, sociable and joking). Since the factor analysis did not find a separate dynamism factor, and the scales that were clustered in factor 1 were mostly factors related to superiority, this factor was given the broad label prestige. The results of the final factor analysis are shown in Table 2.

Table 2. Results of final factor analysis

<table>
<thead>
<tr>
<th></th>
<th>Prestige</th>
<th>Solidarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>successful</td>
<td>0.84</td>
<td>0.23</td>
</tr>
<tr>
<td>competent</td>
<td>0.85</td>
<td>0.21</td>
</tr>
<tr>
<td>good job</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>perspicacious</td>
<td>0.73</td>
<td>0.43</td>
</tr>
<tr>
<td>university degree</td>
<td>0.77</td>
<td></td>
</tr>
<tr>
<td>self-confident</td>
<td>0.66</td>
<td>0.25</td>
</tr>
<tr>
<td>warm-hearted</td>
<td>0.26</td>
<td>0.77</td>
</tr>
<tr>
<td>like to know</td>
<td>0.53</td>
<td>0.63</td>
</tr>
<tr>
<td>pleasant</td>
<td>0.23</td>
<td>0.86</td>
</tr>
<tr>
<td>sociable</td>
<td></td>
<td>0.79</td>
</tr>
<tr>
<td>joking</td>
<td></td>
<td>0.76</td>
</tr>
<tr>
<td>honest</td>
<td>0.44</td>
<td>0.30</td>
</tr>
<tr>
<td>generous</td>
<td>0.41</td>
<td>0.48</td>
</tr>
<tr>
<td>SS loadings</td>
<td>4.51</td>
<td>3.60</td>
</tr>
<tr>
<td>Proportion variance</td>
<td>0.35</td>
<td>0.28</td>
</tr>
<tr>
<td>Cumulative variance</td>
<td>0.35</td>
<td>0.62</td>
</tr>
</tbody>
</table>

R is a free software environment for statistical computing and graphics (https://www.R-project.org).
5.2 Average scores and scaling

In order to investigate the influence of the properties of the audio samples (i.e. the varieties) and the participants on each attitudinal dimension, we first standardized the scores of the original rating scales into z-scores (with the `scale`-function in R) and then averaged these standardized scores per grouping of scales that received the highest loadings on a factor (i.e. the shaded scales in Table 2).

5.3 Effects

Mixed-effects linear regression analyses, with participants as random effects, were used to measure the correlation between the scales and the varieties in our samples.

Figure 1 shows the average standardized prestige score for the five speaker guises (and thus the five varieties). The plot in Figure 1 shows that both Florentine Italian and Neapolitan Italian (both at around 0.2) were rated as the most prestigious. This suggests, in line with previous studies, that Florentine Italian has preserved its historic literary prestige among Italians living abroad. The high prestige value observed for Neapolitan, however, was not expected and suggests not only

![Figure 1](image-url)  
**Figure 1.** z-scores of the five varieties for *prestige*, with purple plots for negative z-scores, and green plots for positive z-scores
neutralization of the stigma, but also increasing sympathy for the cultural identity associated with the variety (music, theatre, …).

The plot also shows a significant devaluation for Roman Italian (around −0.4), whereas for standard Italian and Milanese, responses did not show significantly positive or negative evaluations for prestige (i.e. the error bars around the average scores include the zero point of the scale).

On the prestige dimension, age (younger vs. older) was found to have a significant effect ($p < 0.5$) for the Florentine variety (see Figure 2): younger respondents rate the variety much more favorably than the older generation. In order to find out how stable these evaluations are across the three different regions of origin, we stratified the ratings according to the three main areas of origin of the respondents (northern, central and southern Italian regions). However, no area origin effect was found. This means that the somewhat unexpected positive prestige attitudes towards Neapolitan cannot be attributed to the areas of origin.

Figure 2. Age group effect for prestige, with purple plots for negative z-scores, and green plots for positive z-scores
Figure 3 shows the mean score for the *solidarity* dimension. Roman and Florentine Italian are deemed significantly more pleasing than standard, Milanese, and Neapolitan Italian, which are rated negatively on this dimension.

![Figure 3. Z-scores of the five varieties for *solidarity*, with purple plots for negative z-scores, and green plots for positive z-scores](image)

In other words, our data suggest an increasing sympathy for Roman and Florentine, but low solidarity for Neapolitan, which was deemed highly prestigious, and low solidarity for Milanese and standard Italian, although only for the latter variety the observed trend seems significant.

As for the *prestige* dimension, a slight age group effect was found, this time for the Roman and Neapolitan variety, both evaluated more positively on the *solidarity* dimension (see Figure 4) by the younger cohort of participants. No regional origin effect was found.

In summary, a traditional attitudinal pattern was found for the Roman variety, since it was evaluated high on *solidarity*, but low on *prestige*. With standard Italian and Milanese, however, the pattern observed is new, since both varieties were rated as non-prestigious and non-pleasant at the same time. The high scores for Neapolitan Italian were also rather unexpected, whereas no distinct attitude toward this variety was found on the *solidarity* dimension.
6. Discussion

The findings above will now be reviewed in light of the overall research question asking how variable belief systems are that underpin standardization dynamics among highly mobile speakers who live outside their home country and in a contact situation. We start with a comparison to the findings of previous measurements carried out in Italy (De Pascale, Marzo and Speelman 2017).

Although the rating scales used in this study were taken from De Pascale, Marzo and Speelman (ibid.), in order to allow a close comparison of the attitudes between Italians abroad and in Italy, the results of the factor analyses conducted in both projects diverge in a number of ways.

The two studies share the same absence of a distinction between speaker dynamism and speaker superiority within the prestige dimension, even though different types of scales targeting those two aspects of prestige were specifically included in both experiments. It may be the case that Italian speakers, both abroad as well as ‘at home’, do not tap into two different conceptual systems when evaluating their fellow countrymen on questions related to status/prestige. Consequently, only one factor emerges from the analysis that subsumes both types of prestige. On the other hand, the analysis by De Pascale, Marzo and Speelman (ibid.) yielded two prestige-related
factors, a speech-related and a speaker-related prestige factor. For the following analysis, however, this means that the one prestige factor resulting from our analysis on the Italian expats can only be compared with the speaker-related prestige scores of the Italians living in Italy.

In terms of prestige scores for the different regional varieties, there are marked differences between the attitudinal patterns of the Italian speakers abroad and the Italian speakers in Italy. For example, the older and younger generations in Italy show very different patterns in behavior, while the patterns between the two age groups living abroad are surprisingly aligned to a great extent. For younger Italians living in Italy, the speakers of central varieties (i.e. Roman Italian and Florentine Italian) enjoy the most prestige, while Neapolitan speakers, as well as Milanese speakers, occupy the lowest ranking and standard Italian a middle ranking. Older participants clearly ascribe the most prestige to the standard language and Neapolitan Italian, and rate speakers of the central varieties lower. These results contrast with the younger respondents.

The picture is completely different, however, for the Italians living in Belgium or Switzerland. First of all, the central varieties do not form a homogenous group, since Roman Italian speakers have the lowest prestige scores across generations, while Florentine Italian speakers have higher ones. Furthermore, Neapolitan Italian which was downgraded among younger respondents living in Italy, seems to regain prestige in all the age groups living abroad. In this respect, Italian speakers living abroad lean more towards the attitudinal preferences of the older generation in Italy (with the exception of standard Italian, which is considered highly prestigious by the older cohort in Italy, but not to the same extent by young and old respondents living abroad).

A point of continuity is the clear emergence of the dimension of speaker solidarity, which clusters almost exactly with the same rating scales in both experiments (pleasant, sociable and joking). The solidarity scores are also distributed in a highly similar way to those in De Pascale, Marzo and Speelman (2017). Both older age groups rate speakers of Florentine Italian as the most sociable, closely followed by Roman-accented speakers; Roman and Neapolitan-accented speakers are almost judged on par by older participants living in Italy, while there is a slight preference for the Roman speakers in the data for Italians living abroad. Finally, Milanese Italian and the standard language again occupy the lowest position on the solidarity scale for both older generations. The only difference is that speakers of standard Italian seem to be rated more negatively on the solidarity dimensions to a higher extent by older Italians living abroad than by older Italians living in Italy, for whom the Milanese speaker is clearly the least friendly.

Comparing the younger cohorts (i.e. age younger than 40) to each other, there is again a striking resemblance. Roman Italian speakers are clearly rated as the most
pleasant speakers, surpassing the Florentine speakers (and thus in contrast to the attitudinal preferences of both older generations). A difference between younger Italians living abroad and in Italy can be observed in the scores for Milanese Italian and Neapolitan Italian. The Milanese speakers seem to have a higher rate of appreciation by the younger cohort in Italy compared to those abroad, where the Milanese speakers rank lower than Neapolitan Italian speakers. In contrast, Neapolitan speakers have lower solidarity scores among the Italians living in Italy compared to those in Belgium or Switzerland. It should be mentioned here that the expat groups include respondents from all over Italy, while in the study by De Pascale, Marzo and Speelman (ibid.), the participants were only from southern Italy. The varying number of respondents that identify with the Neapolitan variety in the two samples might explain the differing levels of appreciation for speakers of that variety in the attitudinal experiments. However, the lack of effect of the respondent’s region of origin on the prestige evaluation suggests that this variation in appreciation is not simply or at least not only due to the difference in regional stratification of the samples in both studies. We acknowledge that the areas of origin are rather broad categories and that further research needs to be carried out in order to gain deeper insights into the role of local regional provenance on the prestige evaluations of the varieties. For now, our data suggest that the area of origin is not a strong determinant in the change of the appreciation of Neapolitan Italian.

In general, the situation for the solidarity dimensions remains quite stable, both across generations and across mobile and non-mobile Italians: Italian expats, across generations, display similar solidarity-based attitudinal patterns to those found for respondents living in Italy; the central Italian speakers show rankings which are higher compared to the standard and Milanese-accented speakers, which are lower. By contrast, the position of Neapolitan Italian fluctuates with a moderate cross-over effect; the appreciation increases by age for those living in Italy, but decreases for those living abroad.

7. Conclusions

The answer to our empirical research question on the effect of the new international mobility of Italians on the prestige of standard Italian and regional standards is that there are clear differences compared to the attitudes of non-mobile Italians, as found in Galli de’ Paratesi (1984) and De Pascale, Marzo and Speelman (2017). The most striking results concern the disappearance of the belief that Milanese is the new best way of speaking, on the one hand, and of the stigma associated with Neapolitan on the other hand.
Furthermore, Neapolitan Italian, which was downgraded among younger respondents living in Italy, seems to regain prestige in all the age groups living abroad. We assume that this surprising result is not due to Naples per se nor to a shift in perspective with respect to its cultural charisma. Rather, we assume that Italians living abroad who encounter cultural generalizations regarding Italy find that stereotypes toward Italy correspond in large part to stereotypes toward Naples. As a consequence of self-categorization and self-stereotyping processes (Hogg & Turner 1985), the positive and well-known stereotypes associated with Naples might lead to a “positive differentiation on the in-group from selected out-groups” (Tajfel 1981: 156), modifying the original auto-stereotype (Villano & Passini 2018). We do not go so far as to consider Naples as representative of Italy, but we assume that the correspondence of stereotypes about Italy with stereotypes about Naples has not only mitigated its stigma but even positively influenced its prestige.

The answer to the more theoretical research question, asking how variable believe systems that underpin standardization dynamics are, can be tentatively expressed as follows: international mobility in terms of international migration can affect the social meaning people attach to regional varieties. Northern and southern varieties receive the most polarizing judgments, namely Milanese and Neapolitan. For speakers abroad, the evaluation of these regional varieties seems to undergo a substantial change: whereas Milanese is considered the most prestigious regional variety in Italy, its prestige abroad is significantly lower. In contrast, the Neapolitan variety, which was downgraded in terms of prestige among younger speakers in Southern Italy, is significantly more highly valued among Italians abroad.

The precise reasons for this change require further investigation. What has emerged so far, however, is that language beliefs change in the context of mobility, and that factors arising from the context of migration, such as ‘expat nostalgia’, modify the belief systems that underpin standardization dynamics. This testifies once again to the fact that social meaning is not static but dynamic, since it constantly evolves depending on the context, not only on social interaction. In follow-up studies, the variable mobile speakers will be differentiated further, taking into account their social networks (local, international, Italian) as well as their exposure to Italian through virtual mobility (frequency and duration). This will allow us to gain further insights into the question of how migration affects language attitudes.
References


Urban-rural dimensions to variable -body/-one
The case of Ontario, Canada

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English pronominal quantifier doublets (some/any/every/no- + -body/-one) have been variable since Middle English. Previous research (D’Arcy et al. 2013; see also Biber et al. 1999) shows varying patterns of -body and -one by region and quantifier, with an overall slow progression toward -one and possible eventual obsolescence of -body that is highly dependent on social and geographic correlates; the -body variant is retained in rural areas, no matter their location and distance from the large urban centre of Toronto, yet with notable consistency and parallels in the underlying constraints. These findings align with the cascade model (Trudgill 1974, 2011; Labov 2003) and models of transmission versus diffusion of change (Labov 2007; Tagliamonte and Denis 2014).

Keywords: pronominal quantifier, language variation, language change, Canadian English

1. Introduction

This paper offers a 21st century perspective on the impact of social and geographic space on linguistic change. The data come from the Ontario Dialects Project (Tagliamonte 2013–2018, 2010–2013, 2007–2010, 2003–2006), an ongoing project documenting varieties of English spoken across Ontario, Canada. With its broad geographic coverage, the aims of the Ontario Dialects Project are to evaluate the social determinants of linguistic systems, to understand how language variation and change works in different types of communities, and to elucidate how this influences the evolution of language over time.

At the time of writing, the project had collected data from over a dozen communities strategically selected to investigate the influence of population size, geographic location, social structure, and economic base on language usage. This archive offers an unparalleled opportunity to study how language changes progress through social and geographic space as well as across time using the apparent time
construct (Bailey et al. 1991). The nature of this archive enables us to test hypotheses about the cascade model (Trudgill 1974; Chambers and Trudgill 1998; Labov 2003), and transmission versus diffusion of a change (Labov 2007; Tagliamonte and Denis 2014). In this paper, we put this resource to the test by scrutinising the English pronominal quantifier doublets, -body and -one.

2. Historical background

Variation in the English pronominal quantifiers, as in (1), has existed since Middle English. The pronouns -body and -one can be combined with the quantifiers any-, every-, some- and no-, resulting in four alternating pairs: somebody/someone, anybody/anyone, everybody/everyone, and nobody/no one.

(1) a. …someone in grade one knows somebody in grade six just because they live in the same neighbourhood. (EE, female, b. 1977, Toronto)
b. I’m not blaming anybody for it […] You couldn’t hurt anyone. (LW, male, b. 1925, Temiskaming Shores)
c. Everybody was real tight. […] Everybody was really friendly. (JT, male, b. 1976, Burnt River)
d. Nobody is awake during the night […] No one was there. (KS, male, b. 1994, Kirkland Lake)

Considerable previous research (see, e.g. Raumolin-Brunberg 1994; Raumolin-Brunberg and Kahlas-Tarkka 1997; Nevalainen and Raumolin-Brunberg 2003; D’Arcy et al. 2013) has focused on the historical trajectories of these forms. Figure 1 plots the forms by their first attestation in the Helsinki Corpus, from Middle English to Early Modern English.

The use of -one with the quantifiers appeared in the 13th century, competing with the much older and now archaic -man forms (e.g. where no man has gone before, or no man’s land). The -one forms first appeared with every-, followed by any-. Collocation of the quantifiers with -body began in the 14th century, first with no- and then some-, until “by the end of the EModE period, its frequency surpassed that of -one with all of the quantifiers except every” (D’Arcy et al. 2013: 290, citing Raumolin-Brunberg 1994). Figure 2 shows the frequency of -body variants from Early Modern English to Modern English with each of the lexical quantifiers separated.

At the beginning of the Modern English period (1500–1800), no- was still used with high frequency with the -body variant, while some-, every- and any- occurred

1. The codes in parenthesis represent the initials of the individual’s pseudonym, their sex (male or female), year of birth and community of residence.
more often with the *-one* form. By the mid 1800’s, the differences among the quantifiers had significantly diminished. By that time, quantifier *some-* stood out as retaining the most *-body* forms whereas *no-/every-/any-* pattern together at lower rates. From early on, the *-body/-one* variants had social correlates: *-body* forms were restricted to oral registers (fiction, drama and private letters) until about 1650 (D’Arcy et al. 2013: 290–291). Only then did it start appearing in more formal writing.

In the late 16th/early 17th century (ca. 1592–1606), the canonical meaning of ‘*body*’ was satirized in the allegorical morality play entitled *No-body and Some-body*,2 in which the characters “Some-body” and “No-body” were performed as clown-like

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2. As depicted in the hand-coloured title page and final page of the play *No-body and Some-body*, printed 1606 in London, with woodcuts of the eponymous title characters (“No-body and Some-body”, 1606).
figures with no bodies, making use of the obvious word-play joke in their fight over who is to blame for various societal ills (Archdeacon 2012). Further, ceramic figurines of the “No-body” character were manufactured in and around London as well as imported from China in the late 17th century.3

This offers cultural support for the fact that the -body variants were well-engrained in the popular consciousness of the time and had iconic secular associations. In contrast, by the 18th century, “[…] -one forms bore the hallmarks of an emerging ‘standard’ or prestige variant, associated with women and literate genres” (D’Arcy et al. 2013: 293). Yet at the end of the 19th century, the -one forms still hovered at around 20% of the system, as shown in Figure 2 (ibid.). Most modern varieties of English still exhibit this variation; however, they differ in terms of their choice of forms, as shown in Figure 3.

Figure 3. Estimated probabilities for -body by quantifier and variety (from D’Arcy et al. 2013: 303, Figure 11)

Figure 3 shows that New Zealand English (NZE) stands out for its low probability of -body variants while American (AmE), British (BrE) and Canadian English (CanE) generally favour -body. However, regional nuances are notable: Canadian English shows a distinct preference for someone, while British English has more -body variants with nobody than the three other quantifiers (D’Arcy et al. 2013: 305; see also Biber et al. 1999: 352–353). These varying patterns across regions and quantifiers in addition to their roots in contrasting prestige/vernacular practise make this variable an ideal test ground to expose the footprints of linguistic change in social and geographic space.

3. The Victoria and Albert museum in London has two such ‘No-body’ figures in their permanent collection: one manufactured in London, ca. 1680–1685 (http://collections.vam.ac.uk/item/O21018/figure-unknown/ (1 June, 2018)) and a second made in Jiangxi Province, China, ca. 1680–1700 (http://collections.vam.ac.uk/item/O77975/figure-unknown/ (1 June, 2018)).
3. Synchronic situation: Canadian English

Against this historical trajectory and 20th century national differences, we now turn to the present study, with data collected in Ontario, Canada, between 2003–2017. In Ontario, variation between -body/-one is ubiquitous, as in (1) above.

The D’Arcy et al. (2013) study included a subsample of the Toronto English Archive (TEA) (45 individuals) along with corpora from the UK and New Zealand. For the present study, the Toronto component was augmented to include the entire Toronto data (211 individuals). We also included all communities available for analysis in the Ontario Dialects Project at the time of writing. The communities contrast by population size, economic base, social structure, distance from the main Ontario urban centre, Toronto, and along an urban vs. rural continuum.

Our goal was to evaluate how the -body/-one trajectory of change might be further elucidated by considering its social and geographic distribution within the broad regional expanse of Ontario. We ground the study in the sociolinguistic typology approach in Trudgill (2011) as a guide for interpretation, along with comparative sociolinguistic methods (Poplack and Tagliamonte 2001; Tagliamonte 2012; Tagliamonte 2013).

Table 1 presents the breakdown of Ontario communities, including collection year, number of speakers, age range of individuals and the number of tokens from

<table>
<thead>
<tr>
<th>Community</th>
<th>When collected</th>
<th># speakers</th>
<th>Birth years</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Toronto</td>
<td>2002–04</td>
<td>113</td>
<td>98</td>
<td>1912–1995</td>
</tr>
<tr>
<td>Lakefield</td>
<td>2007</td>
<td>7</td>
<td>5</td>
<td>1922–1986</td>
</tr>
<tr>
<td>Burnt River</td>
<td>2007–08</td>
<td>10</td>
<td>8</td>
<td>1920–1991</td>
</tr>
<tr>
<td>North Bay</td>
<td>2009–10</td>
<td>17</td>
<td>17</td>
<td>1921–1997</td>
</tr>
<tr>
<td>Cobalt/Temiskaming Shores</td>
<td>1990/2011</td>
<td>0+34</td>
<td>1+32</td>
<td>1918–1995</td>
</tr>
<tr>
<td>South Porcupine/Timmins</td>
<td>2011–12</td>
<td>19</td>
<td>17</td>
<td>1927–1999</td>
</tr>
<tr>
<td>Haliburton</td>
<td>2012</td>
<td>17</td>
<td>14</td>
<td>1924–2000</td>
</tr>
<tr>
<td>Beaverton</td>
<td>2013</td>
<td>17</td>
<td>20</td>
<td>1921–1995</td>
</tr>
<tr>
<td>Wilno/Barry’s Bay</td>
<td>2014</td>
<td>28</td>
<td>28</td>
<td>1919–1997</td>
</tr>
<tr>
<td>Dowling</td>
<td>2015</td>
<td>15</td>
<td>6</td>
<td>1935–1995</td>
</tr>
<tr>
<td>Kapuskasing</td>
<td>2016</td>
<td>35</td>
<td>26</td>
<td>1925–2001</td>
</tr>
</tbody>
</table>
each location. The communities are ordered from largest to smallest population size. It is important to note that the social distribution of individuals by community is not perfectly comparable. For example, there are no individuals under 40 in Almonte and Tay Valley, since much of these data come from oral history projects focussed on elderly residents. Further, as with most sociolinguistic studies, there are always certain sectors of the population that are more difficult to find and interview, and thus gaps and/or imbalances in sampling (e.g. the Dowling corpus has only six men). We will return to this observation later.

3.1 Distributional analysis

We extracted every pronominal quantifier, excluding false starts, repetitions and other anomalies, from 900 individuals with an age range between 9 and 98. The data was then coded for social and linguistic predictors, detailed below. The overall distribution of variants and by the four quantifiers is shown in Table 2.

<table>
<thead>
<tr>
<th></th>
<th>-body</th>
<th></th>
<th>-one</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>any-</td>
<td>72</td>
<td>1319</td>
<td>28</td>
<td>516</td>
</tr>
<tr>
<td>no-</td>
<td>70</td>
<td>1441</td>
<td>30</td>
<td>618</td>
</tr>
<tr>
<td>every-</td>
<td>67</td>
<td>4161</td>
<td>33</td>
<td>2010</td>
</tr>
<tr>
<td>some-</td>
<td>63</td>
<td>2964</td>
<td>37</td>
<td>1738</td>
</tr>
<tr>
<td>Total N</td>
<td>67%</td>
<td>9885</td>
<td>33%</td>
<td>4882</td>
</tr>
</tbody>
</table>

Table 2 confirms that the dominant variant in Ontario is -body (67%), consistent with D’Arcy et al. (2013, Figure 3). The -body variants are the dominant form across quantifiers; however, the individual quantifiers differ with someone as the most hospitable form for -one, (37%) as also visible across varieties in Figure 3. Figure 4 plots the proportions of the four quantifiers by the date of birth of the speakers (i.e. apparent time) with all communities combined.

Figure 4 exposes a steady rise of the -one forms in Ontario, from virtually 0% to the majority of the system. The -one variants for all the quantifiers are rising steeply, especially among individuals born after the 1960’s. Notice that someone, the square symbols, is the most likely form to occur with -one, and this pattern is preserved for all stages of the change after approximately 1950. No-one, the dark triangles, lags behind as of the 1970s.

The archive of written data in Google Ngrams can serve as a backdrop for this development.4 Figure 5 shows a plot the raw frequency of -one variants in all the pronominal quantifiers in American English from 1800–2000.

Figure 5. Google Ngram Viewer, -one variants in American English from 1800–2000

The surprising finding in Figure 5 is that after a rise in use from 1820 to 1840, no-one is relatively stable across the period. The -one forms combined with the other quantifiers begin to rise in the late 19th century to a mid-point between 1940 and 1970. It also upholds the divide between someone vs. anybody, everybody and nobody in written documents in American English; however, notice how much more partitioned the system is in the written data compared to spoken English in Ontario.

Further, there are notable shifts in the pattern across quantifiers over the period for the written data. Until about 1940, no-one dominated the cohort in its use of the -one form. Thereafter, beginning about 1860, the use of -one forms in the other quantifiers starts to rise and between 1940 and 1970 all variants hover at about the same frequency of usage. However, after 1970, the frequency of someone begins to break away from the rest of the cohort and accelerates dramatically, and no one lags behind, not changing its earlier behaviour.
These trends are in line with the rise in -one forms in the spoken English of Ontario in Figure 4, but there is a notable difference. In the spoken data, the rise in -one forms is much more consistent across quantifiers and the differences between them are greatly attenuated. No- clearly retains the -body forms longer. Nevertheless, both the trajectories exhibit a similar acceleration in -one variants. The question is: what can explain these developments within the context of the trajectory of -body/-one variation in the history of English?

3.2 Geographic distribution

We now return to the Ontario context to examine this situation further. A well-known tenet from the literature on diffusion in dialectology, based on earlier work in historical linguistics, is that innovations tend to spread from urban to more rural areas (Trudgill 1974; Chambers and Trudgill 1998). In the case at hand, Toronto, being the largest urban centre in Ontario, should be a focal point for change into outlying areas. According to the cascade, or hierarchical model, changes are predicted to spread to urban areas before more rural ones, with population size playing a predictor “[…] from the largest city to the next largest city, and so progressively downward” (Labov 2003: 9). In the more specific gravity model, distance should also play a role: “[…] from the largest to the next largest city, in a predictable order, the influence of one city on another being proportional to the relative sizes of the city and inversely proportional to the distance between them” (ibid.).

Further, if the change has common linguistic or social constraints from place to place, then it can be explained as transmission. However, if constraints shift or reorganise, this can be explained by diffusion (Labov 2007; Tagliamonte and Denis 2014). Figure 6 offers further detail on the geographic setting of the communities in the Ontario Dialects Corpora.

![Figure 6. Geographic array of communities in Ontario](image)
The city of Toronto has well over two million inhabitants. One of the largest outlying cities in Ontario is Thunder Bay, in the far west of the province, with a population over 100,000. Kapuskasing and South Porcupine are the most northerly communities on the left panel and North Bay is at an approximate mid-point between these communities and Toronto. In the southwest is Belleville, with a population of 50,716. The remaining communities are much smaller, ranging from towns to small hamlets to rural counties. They stretch from an hour or two north and north east of Toronto (Beaverton, Haliburton, Burnt River, and Wilno and Barry’s Bay) to northern Ontario (Kirkland Lake, Temiskaming Shores, Dowling) and then the communities Almonte and Tay Valley Township in the rural Ottawa Valley.

Table 3 lists the communities in order from largest population to smallest, from Toronto to Burnt River, grouped according to the distinction between the mid-to-large urban centres (pop. > 60,000) and the smaller urban and rural areas.5

Table 3. Demographic information about the communities in the data

<table>
<thead>
<tr>
<th>Category</th>
<th>Location</th>
<th>Population (year)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-large urban centres</td>
<td>Toronto</td>
<td>2,481,494 (2001)</td>
<td>city</td>
</tr>
<tr>
<td></td>
<td>Thunder Bay</td>
<td>102,222 (2006)</td>
<td>city</td>
</tr>
<tr>
<td></td>
<td>Belleville</td>
<td>63,985 (2006)</td>
<td>city</td>
</tr>
<tr>
<td>Northern Ontario, small-mid urban and rural</td>
<td>North Bay</td>
<td>53,651 (2006)</td>
<td>city</td>
</tr>
<tr>
<td></td>
<td>South Porcupine</td>
<td>43,165 (2011, incl. Timmins, ON)</td>
<td>town/neighbourhood (of Timmins)</td>
</tr>
<tr>
<td></td>
<td>Temiskaming Shores*</td>
<td>13,566 (2011)</td>
<td>town</td>
</tr>
<tr>
<td></td>
<td>Kapuskasing</td>
<td>8,284 (2016)</td>
<td>town</td>
</tr>
<tr>
<td></td>
<td>Kirkland Lake</td>
<td>8,133 (2011)</td>
<td>town</td>
</tr>
<tr>
<td></td>
<td>Dowling</td>
<td>1,690 (2011, pop. 160,274 including Greater Sudbury)</td>
<td>town/neighbourhood (of Greater Sudbury)</td>
</tr>
<tr>
<td>Peripheral (Ottawa Valley)</td>
<td>Almonte**</td>
<td>4,752 (2011)</td>
<td>town</td>
</tr>
<tr>
<td></td>
<td>Tay Valley Township</td>
<td>5,571 (2011)</td>
<td>town/municipality with small towns</td>
</tr>
</tbody>
</table>

(continued)


6. The data was collected over a 13-year period. Population figures are taken from the Canadian census report that immediately preceded that community’s data collection.
Table 3. (continued)

<table>
<thead>
<tr>
<th>Category Location</th>
<th>Population (year)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>South-Central Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(small-mid urban, towns, hamlets and rural)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haliburton County</td>
<td>17,026 (2011)</td>
<td>county (rural with small towns)</td>
</tr>
<tr>
<td>Christie Township***</td>
<td>3,988 (2011)</td>
<td>township (rural municipality with small towns)</td>
</tr>
<tr>
<td>Beaverton</td>
<td>2,915 (2011)</td>
<td>town</td>
</tr>
<tr>
<td>Lakefield</td>
<td>2,739 (2006)</td>
<td>town</td>
</tr>
<tr>
<td>Wilno &amp; Barry’s Bay</td>
<td>~1,592 (2011)</td>
<td>town</td>
</tr>
<tr>
<td>Burnt River</td>
<td>250 (2006)</td>
<td>hamlet</td>
</tr>
</tbody>
</table>

* The data from Cobalt, collected in 1990 (see Table 1 and map in Figure 6), falls under this location, and geographically overlaps portions of the modern Temiskaming Shores data, collected in 2011.

** The data from central Lanark County, collected from 1975–1980 (see Table 1 and map in Figure 6), falls under this location, and geographically overlaps the modern Almonte and Tay Valley data, collected from 2012–2014.

*** The data from central Parry Sound District, collected from 1979–2009, are grouped with this location, and geographically overlap some of the modern Christie Township data, collected from 2015–2017.

Figure 7 shows the geographic reflex of increasing -one variants. As predicted, Toronto has among the highest proportions of the -one variants, nearly 50%. The other communities range across the spectrum, with less than 10% -one in Christie-Parry Sound.

Figure 7. Proportions of -body and -one by community in Ontario
The communities of Kapuskasing, South Porcupine/Timmins and Thunder Bay cluster together with Toronto, using more -one. The geographic nature of this community grouping offers some evidence of the cascade model at work. The three towns are very distant from Toronto and also from each other, yet they are the economic and cultural hubs of their respective areas, and have their own local economies and secondary education institutes, as well as direct links to Toronto by air.

The parallelism between Toronto and Thunder Bay, the furthest location, is consistent with Roeder (2012), who found that Thunder Bay was on the forefront of change with regard to the Canadian Shift in comparison with other Ontario communities outside of Toronto, particularly among young people with strong non-local orientation and personal links to Toronto. North Bay (32%), Dowling (31%) and Belleville (30%) have rates of -one that place them at mid-range. However, the small towns and rural areas of the Ottawa Valley (13%), Beaverton (11%), Haliburton (11%), and Parry Sound/Christie (6%) are notably different.

Figure 8. Proportion of -one by speaker year of birth, all communities
We interpret this to mean that the change to -one is proceeding more quickly in the urban and larger locales ahead of the smaller and non-urban ones, as expected by the cascade model. However, the predictions of the gravity model, in which distance should also play a role, are not borne out, as it is only population size and not distance that is relevant in Ontario.

Further, given the dramatic changes across the 20th century towards the -one forms, documented by Figure 5, and the overall trend for each quantifier in Figure 4, we expect that year of birth of the individuals in Ontario will also be an important predictor within each community. Figure 8 plots the use of -one forms in all communities of the Ontario Dialects Project by year of birth of the speakers. Despite fluctuations from year-to-year, all the communities show an overall common trajectory toward the -one forms regardless of place, size or distance from the urban centre. Figure 8 also confirms the trend visible in Figure 4 and Figure 5; the change toward -one accelerates in the 1970’s for all quantifiers, and by the 1980’s, the youth of nearly every community have adopted the -one forms the majority of the time. Minor deviations from these trends are due to small token counts in certain places.

Underlying these overarching trends by geography and age of the individual are other social factors, including speaker sex, education level and job type, all of which can be expected to play into these developments. This is further complicated by the fact that the communities have widely varying distributions of individuals by age (see Table 1). It is therefore necessary to employ a more nuanced type of analysis in order to disentangle and assess the possible influencing factors that contribute to the choice of forms.

3.3 Statistical modelling

The first step in this process is to determine the best way to group the communities. One of the best ways to determine the nature of variation within a complex predictor is to explore its structure using a conditional inference tree (Strobl et al. 2009; Strobl et al. 2008; see also Tagliamonte and Baayen 2012). We employed the version implemented in the ‘ctree’ function of the Party package in R.8 Figure 9 shows the final results of a series of conditional inference tree analyses, in which we systematically explored how each of the community data sets patterned with the others.

Figure 9. Conditional inference tree for Ontario communities

Figure 9 shows the main pattern that emerged from this exercise: the small villages and rural municipalities in node 2 (Ottawa Valley, Beaverton, Haliburton, Wilno/Barry’s Bay, Lakefield, Burnt River, Christie-Parry Sound) are distinct from all the other communities at the main division at the top of the tree (node 1). Thereafter, the medium sized towns in node 4, whether northern (Kirkland Lake, Temiskaming Shores, South Porcupine, North Bay, Kapuskasing, Dowling, Thunder Bay) or southern (Belleville), group together in contrast to Toronto (node 5), which has the most -one variants.

The next step is to subject these data to statistical modelling, using a linear mixed effects regression (Bates et al., 2015; Tagliamonte 2012: 144–152) in R (Team 2007). This type of statistical model enables us to gain further insight into the patterns of variation, because all the predictors can be treated simultaneously, while at the same time controlling for the speakers in the sample, i.e. by individual as a random effect. In the analysis that follows, the complex array of communities is now collapsed meaningfully, as per the categorization breakdown in Figure 9.
Table 4 culminates our analyses of variable -body/-one with a mixed effects logistic regression of the social and linguistic factors. This is a generalised linear mixed model fit by maximum likelihood (Laplace Approximation) (‘glmerMod’). The reference levels for decade of birth, quantifier and community were set to the variable with the highest probability of -one: speakers born in the 1990’s, the quantifier some, and the community of Toronto. The analysis is based on 13,341 observations and 765 individuals.

We expect the -body variant, with its early social correlates to oral registers and the vernacular (D’Arcy et al. 2013: 290–291), to be influenced by education and job type (see, e.g. Labov 1963, 2001). Finally, given that this is described as a change from above, we expect a sex effect, with women using more of the incoming and more formal-register -one variant (e.g. Labov 1994, 2001: 274–275).

The mixed effects model in Table 4 demonstrates that decade of birth, occupation, education, community and quantifier are statistically significant, while sex is not significant. The urban centre of Toronto is the epicenter of advancing -one forms. When it is set as the reference level, it is evident that the small towns of rural Ontario are the most distinct from Toronto (***) followed by the northern towns (**). However, notice that Toronto is not significantly different from the southern towns. While the two ends of the date of birth years have small numbers, the robust counts elsewhere show a dramatically advancing change by decade, with occupation and education playing a significant role.

Taken together, these results confirm that -body/-one variation is an advancing change in Ontario, consistent with the trajectory documented in D’Arcy et al. (2013) on a comparative national variety level. The significant correlation with education is evidence that -one functions as a prestige variant; however, note that there is no significant difference between white and blue-collar workers. Rather, students, who do not hold full time jobs, are set apart from both blue and white-collar workers. Because students are also relatively young, this portends an interaction with date of birth, which is the foremost contributor to the change.

The -one forms are favoured in urban centres, used by youth and educated individuals. In contrast, the -body variants are receding, retained in small towns and among individuals with less education. The anomalous part of these findings is that women do not favour the -one variants over men, which appears to contradict

9. We have configured the predictor for date of birth into 10-year increments in order to (1) hone the model submitted to analysis and (2) view the precise breakpoints for the development of the -one variant. The modest Ns for speakers born after 2000 are included here for completeness.

10. The discrepancy in total number of tokens here compared to other tables is due to non-application contexts, especially for education and occupation, information which some speakers did not provide in their interviews.
Principle 2, where one of the identifying features of change from above is greater use by women of incoming forms. However, this aspect of Principle 2 is described only in reference to the adoption of diffusing forms rather than those undergoing transmission (Labov 2007; Tagliamonte and Denis 2014). There is also a trend since the 1800’s (see Figure 2) for the quantifier some- to favour the -one variants in contrast to all other quantifiers.

The use of variants across the four lexical quantifiers retains the long-time constraint ranking of quantifier some- favouring -one forms more than the others right up to the end point of this trend (Figure 4). The long-term maintenance of this
pattern is evidence that -body/-one variation in Ontario is not the result of ongoing diffusion, but of parallel transmission across centuries, complete with the social and linguistic patterns that have been reported for centuries.

4. Conclusions

In conclusion, the use of -one variants (rather than -body) in pronominal quantifiers is advancing steadily in the spoken vernacular of Ontario English, particularly in the latter half of the 20th century. It is remarkable that after hundreds of years of variability, the urban/rural continuum in Ontario still offers insight into the pathway of this change. Places with the largest populations have the highest rates of -one forms.

Toronto leads in this trend, but distant small cities such as Kapuskasing, South Porcupine, Thunder Bay and other northern communities also have high rates. In contrast, small towns and villages across the province retain the highest rates of -body, no matter their geographic location, whether they are proximate to Toronto, e.g. Beaverton, or hundreds of kilometers away, e.g. Wilno/Barry’s Bay. The cascade model, in which population size is held to be the primary explanation for how changes are predicted to spread, therefore provides at least part of the explanation for the patterns of change. This finding also aligns with Trudgill’s (2011) proposal that communities of small size and with fewer links with urban centres, as is the case for the many rural communities of Ontario, are likely to preserve older forms, as well as retain more complex systems of variation. D’Arcy et al. (2013: 306) argued that this variable is ‘going its own way’ in different varieties of English11 and that “local linguistic ecologies play a critical role in shaping the practical eventualities of language use in the speech community”.

In Ontario, Canada, the landscape still holds a primary influence on the nature of this linguistic variable. Indeed, the -body variants may endure for many generations to come in rural areas creating a distinct rural/urban dimension to Ontario dialects.

Acknowledgements

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11. Original quote: “the varieties of English represented in our sample go their own way” (D’Arcy et al. 2013: 306).
extraction, coding, and preliminary analyses, upon which this work was founded. We are grateful to the following scholars and sources for some of the data that were used in this work under research agreements with the second author: Rebecca Roeder for the Thunder Bay data; Graeme Gordon and Kaye Rogers for the Tay Valley data; Professor Emeritus Ian Pringle (Carleton University) for the Lanark County data, from the 1975–1980 Linguistic Survey of the Ottawa Valley; John MacFie and the West Parry Sound District Museum for the Parry Sound data; the Hastings County Historical Society for the Belleville Oral History Project Archive (1975); the Museum of Northern History for the Kirkland Lake 1983 data; the Cobalt Mining Museum for the 1990 Cobalt data.

References


From an indicator to a marker
Urban dialect loss in Michigan

Monica Nesbitt
Indiana University

One of the most distinctive regional dialects of North American English – the Northern Cities Shift (NCS), situated in the Inland North dialect area – is receding. Recent work suggests that it has risen as a linguistic marker in upstate New York – at the dialect area’s periphery. This paper reports the results of an online implicit attitudes survey which indicates that Michiganders also negatively evaluate the NCS, rating it accented, and nasally, but indicative of a hard worker. I also find that when listeners hear NCS features in the speech of a young speaker, there are added meanings of uneducated and incorrect/bad English. These results suggest that perhaps changing attitudes and rising awareness can account for NCS recession in the dialect area – a finding that appears to echo recent reports of dialect decline in other areas of North America.

Keywords: North American English, dialectology, language regard, Northern Cities Shift, Inland North, implicit attitudes, TRAP, sociophonetics, vowel chain shift, social marker

1. Introduction

This paper examines evaluation and awareness of local speech and its connections to dialect attrition in Michigan. Though the NCS (Northern Cities Shift) has been progressing for quite some time, recent analyses suggest recession of its features. The Inland North dialect, as opposed to stereotypical dialects in North America (e.g. the southern dialect) has been regarded as one of the most correct varieties of North American English. Thus, its speakers have been under no social pressure to reject the NCS.

I ask whether attitudes towards the NCS have shifted and what the indexical features of this accent are. The results of an implicit attitudes experiment suggest that the NCS has become negatively evaluated – when heard in the speech of a fellow Michigander, young Michiganders rate the speaker as nasally, and accented,
but more hard-working than a neutral accent. These findings suggest that it has risen as a social marker in the community. Additionally, when NCS features are heard in the speech of a young Michigander, listeners downgrade it as uneducated and representative of incorrect English. I therefore argue that the recession of the NCS is tied to its loss of social capital in Michigan. I discuss these results in relation to other ongoing changes of dialect decline in the rest of North America and its connections to our current understanding of North American dialectology.

1.1 The Inland North and the Northern Cities Shift

The Inland North dialect area (see Figure 1) is in the northern region of North America – south of The Great Lakes, stretching westward from parts of New York and Pennsylvania in the east to northern Illinois and southern Wisconsin, and includes the St. Louis corridor (Labov, Ash and Boberg 2006). The Inland North is characterized by a distinction between LOT\(^1\) and THOUGHT, and most notably, the Northern Cities Shift (NCS).

![Figure 1. Map of Inland North dialect area with major cities indicated](source: https://en.wikipedia.org/wiki/Inland_Northern_American_English)

Shown in Figure 2, the NCS is the rotation of six short vowels of North American English (Labov, Yaeger and Steiner 1972; Eckert 1988; Labov 1994; Labov 2010). It has been described as a chain shift in which TRAP fronts and raises, leaving phonetic space for LOT to front, which is then followed by the lowering of THOUGHT,

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1. Throughout this paper, I use the lexical sets developed by Wells (1982) to refer to vowel classes;

\[ /\text{i}/ \text{KIT} \quad /\text{a}/ \quad /\text{LOT} \]

\[ /\text{e}/ \text{DRESS} \quad /\text{e}/ \quad /\text{THOUGHT} \]

\[ /\text{æ}/ \text{TRAP} \quad /\text{a}/ \quad /\text{STRUT} \]
the backing of strut, the lowering and/or backing of dress and the lowering of kit (Labov 1994: 177–199). Other studies have challenged this chronology, providing evidence for the movement of lot as the first phoneme to shift (Thomas 2010; McCarthy 2011; Gordon and Strelluf 2017; Nesbitt, Wagner and Mason 2019). Notably, in the NCS, trap raises in all phonological environments, in contrast to the majority of North American English dialects in which raising occurs only before nasal consonants.

The NCS has been observed to be more advanced in large cities such as Chicago, Detroit, and Buffalo, and it is assumed to have proceeded via a cascade model of diffusion from larger to ever smaller cities (Callary 1975; Ito 2001). Despite this, the NCS is well established across a vast geographical space. The overwhelming maintenance of the NCS and other regional varieties in North America has led some to propose that North American regional diversity is increasing with time (Labov, Ash and Boberg 2006).

Labov (1972/1991) makes the distinction between dialect variables based on awareness and its assignment of social meaning by community members. Linguistic indicators may index group affiliation, but its members do not notice it and thus do not use it stylistically. Linguistic markers are one level up on the awareness continuum. These variables attract attention and are used stylistically, but they are not mentioned in metalinguistic discourse about the social group they are attached to. The last type of variable on the awareness continuum is that of a stereotype – these variables are well above the level of awareness in the community, i.e. speakers use them stylistically and they are often commented on in descriptions of the speech community to which they are attached. Despite having such distinctive features, the NCS was a classic example of a linguistic indicator (Labov 2001: 196) – operating well below the level of awareness (Preston 1996; Niedzielski 2002). Until recently, the NCS showed no signs of social class stratification, i.e.
speakers of all social classes were participating in this change, or style-shifting. In fact, many studies on the dialect have utilized data from word list speech, because its features appeared to be prevalent even when speakers were talking in their more formal speech styles.

NCS speakers were so unaware of their distinctive regional features and any social meaning attached to them that they often identified their own speech as Standard American. For example, in a study examining language regard in North America, Preston (1996) presented a map of North America and asked college-aged respondents to rate areas on the map for correctness. Respondents from various parts of the country, including Michigan, were more likely to rate Michigan as the most correct while dialect areas with highly stigmatized dialects, like the American South, were more likely to be rated as the least correct. Because of the overwhelming agreement that northern speech was the best English, Inland Northerners appeared to be under no social pressure to change their accent.

1.2 Recession of the Northern Cities Shift

Recent analyses of Inland Northern speech show that the NCS is in recession (Driscoll and Lape 2015; Wagner et al. 2016; Nesbitt 2018; Nesbitt 2021; D’Onofrio and Benheim 2020). To date, NCS recession has been documented in large urban centers like Chicago, Detroit, and Buffalo, and also in medium-sized ones like Rochester, NY, Syracuse, NY, and Lansing, MI. In upstate New York, speakers are developing the low-back merger and the nasal system for trap (Dinkin 2009). Likewise, in Chicago, trap is stable in apparent time, while lot is backing, and dress and kit are lowering and backing (McCarthy 2011).

Driscoll and Lape (2015) note that in Syracuse, trap is lowering and backing, and lot is backing over time. In Lansing, MI, trap and dress are lowering and lot is retracting to merge with thought (Wagner et al. 2016; Nesbitt 2018). Thus, NCS recession is not restricted to any locale in the region, as communities across the Inland North are showing evidence of recession. What would motivate speakers of the most correct English to retreat from their local variety?

Though previous studies found that the NCS was a linguistic indicator, the results of more recent production and perception analyses demonstrate that the NCS is likely rising to the level of a social marker. Style-shifting away from trap-raising is noted in upstate NY (Thiel and Dinkin 2020). There is evidence of social class conditioning, whereby NCS recession in Syracuse, Lansing, and Chicago is being led by the middle-class (Driscoll and Lape 2015; Nesbitt 2018). More definitive evidence of a change in social evaluation comes from a recent analysis of implicit attitudes towards raised trap in New York.
Thiel and Dinkin (2020) administered an implicit attitudes survey to natives of Ogdensburg, NY. For this, respondents listened to male speakers and rated them on scales of localness and educatedness. Crucially, there were multiple speakers who had similar acoustic characteristics but who differed in whether their pronunciation of TRAP was raised or not. The study found that listeners born before 1960 did not rate speakers differently on these affective scales. Listeners born after 1960, however, rated the raised TRAP speakers as more local but less educated than the unraised TRAP speakers. Thus, in Ogdensburg, raised TRAP appears to be rising from an indicator to a marker. In contrast to older community members, younger community members shift away from raised TRAP in their more formal speech style and they regard it as distinctly less educated than a lowered variant.

For the present analysis, I ask if the change in evaluation noted in upstate New York can account for dialect decline across the Inland North dialect area, or if these attitudes are confined to this small town situated on the outer isogloss of the dialect area. Is the NCS rising to the level of a social marker in Michigan? To answer this question, I also use an implicit attitudes test, but focus on native Inland Northerners, who are positioned in the center of the dialect area. To build upon the findings in Thiel and Dinkin (2020), the present analysis focuses on raised TRAP as opposed to other NCS components.

A second component of this analysis will expand the findings in Thiel and Dinkin (2020), that young New Yorkers negatively evaluate raised TRAP as uneducated. We ask what raised TRAP indexes for Michiganders beyond uneducatedness. There are two social characteristics of the leaders of NCS recession in the Inland North: middle-class and young. Therefore, it appears that each is a likely candidate to be included in the indexical field of raised TRAP. The present analysis includes age as a factor in this analysis, rather than social class, for two reasons: (1) age is the only social factor that is consistently noted in recent reports of NCS recession – social class is sometimes mentioned but not often controlled for, and (2) age, and not social class, is what comes up in conversations with locals about who has an accent (see Driscoll 2016).

In sum, my two research questions are: (1) Has the NCS risen as a linguistic marker by community members in Michigan? and (2) Is age a component of the indexicality of raised TRAP in Michigan? Labov (2001: 229), citing Sturtevant (1947), suggests that the social motivation of linguistic change is that the form becomes associated with social traits of the originating group. If this is the case, then we should expect raised TRAP to be a marker of older speech in Michigan. Therefore, I hypothesize that if Michiganders share the sentiments of upstate New Yorkers with regard to raised TRAP, the presence of raised TRAP in a younger speaker will be unexpected and likely result in more negative evaluations than its presence in an older speaker for whom NCS pronunciations are expected.
2. Methodology

Utilizing the online survey platform, Qualtrics, I disseminated a survey to native Michiganders to determine how they evaluate raised trap. The survey utilized a modified matched-guise (Anisfeld and Lambert 1964; Lambert 1967; Fridland, Bartlett and Kreuz 2004; Campbell-Kibler 2007) technique, whereby two versions of a speaker’s voice were rated for various social attributes. As part of the matched-guise technique, the two voices differ only in their realization of the variable of interest – in this study the relevant feature was their realization of trap, to be discussed in Section 2.2.1. The experiment was a between-subjects design, so each respondent only heard one of the two speakers and then rated the speaker for different attributes.

2.1 Respondents

Respondents were recruited from two undergraduate courses at Michigan State University in the spring of 2018. Each was given extra credit towards their course grade to participate in the experiment. They were encouraged to share the link to the experiment with other Michiganders, though this was not required. A total of 72 Michiganders participated in this study. Of these, the data for 38 respondents was analyzed for this paper.

The primary goal of this analysis was to better understand why Michiganders were rejecting their own speech. Thus, the pool of respondents was restricted to those who have been identified in the literature to be rejecting the NCS in Michigan – young, middle-class, white. I also limited the pool of data to those respondents who were natives of lower Michigan as opposed to Michigan’s upper peninsula, as this region of the state does not participate in the NCS and considers itself socio/culturally separate from its lower Michigan neighbors (Plichta 2004). Native lower Michigan status for this experiment is defined as: (1) having been born and lived in lower Michigan until at least age 15, (2) not having left the state for longer than two years, and (3) still residing in lower Michigan. To establish residency, respondents were required to enter the zip code of their hometown. I used this to distinguish lower Michiganders from everyone else. Also eliminated from the study were: anyone who did not identify as white/Caucasian, anyone whose native language was not English, anyone who reported that they received less than two years of college education, minors (I did not acquire permission to survey minors), anyone who did not answer all the demographic questions, and those who did not complete at least 80% of the test questions.

The resulting pool of 38 respondents were monolingual native English speakers who identified as white, were native lower Michiganders, were not geographically mobile, and who received at least two years of college education. These respondents were 20–35 years old (22 females; 15 males; one declined).

2.2 Experimental design

For this experiment, each respondent was presented with an auditory stimulus and then asked to identify the speaker’s age and to rate the speaker on various attributive scales.

2.2.1 Stimuli creation

Each respondent heard a white male speaker say, “Cathy’s card was blue and said pot”. The speaker for this experiment was a lower Michigander who was recorded for previous studies on NCS perception (Plichta 2004; Rakerd and Plichta 2010).³ This speaker had a similar voice quality (as measured by F0, vowel trajectory, and vowel space of non-NCS vowels) to speakers with advanced NCS, but crucially, lacked the features most associated with NCS speech, e.g. he had a retracted and slightly lower trap, lower dress, and retracted lot. Thus, I used his voice as the neutral/non-NCS guise.

For the NCS guise, the same speaker was used for the carrier phrase, but I spliced in a more NCS production of the trap vowel in Cathy in Audacity.⁴ The NCS production of Cathy was produced by a second speaker from the Plichta (2004) study whose speech was similar to that of the non-NCS speaker used here (e.g. similar pitch and speech rate) but who had NCS vowel productions (e.g. raised trap, fronted lot, etc.). Some high-frequency noise was inserted in the audio over the word pot so that the only potential NCS cue was the trap vowel in Cathy. Respondents heard what they thought was interference at the end of the sentence. Many commented on this, but crucially, no one could make out what the word was and everyone heard the same noise.

Ultimately, the only discernable difference between the two ‘speakers’ was their pronunciation of trap in Cathy. The difference between their productions of trap was 20 Hz in F1 and 358 Hz in F2.⁵ Thus, the NCS speaker had a more fronted and slightly raised realization of trap than that of the non-NCS speaker. Thus, any

³ Thank you to Bartłomiej (Bartek) Plichta and Brad Rakerd for graciously allowing me to use their stimuli for this and other experiments.

⁴ Audacity is an open-source audio editor and recorder (https://www.audacityteam.org/).

⁵ For more information about the speakers, see Plichta (2004: 98–100).
differences in rating between these two speakers must be attributed to the difference in F1/F2 quality of the trap.

2.2.2 The survey
Upon entering the survey in Qualtrics, respondents answered the demographics questions described above. There was a second set of questions in the survey which asked respondents to judge whether the vowels in various lexical items were the same or different. The results from this second part of the survey were not analyzed for this paper. The final part of the survey was the matched-guise experiment reported here.

The matched-guise component of the survey consisted of two sets of questions. The first set consisted of questions that required speculation about particular macro-level social categories. One of which was about the speaker’s perceived age. For this, there was a sliding bar where respondents could indicate the speaker’s age between 15 and 75, inclusive. The second question asked the respondent to speculate about the type of occupation the speaker had, and the third asked which state in North America the speaker was from. Responses to the question about perceived age is the only one of these three questions utilized in this paper.

The second set of matched-guise questions are the focus of the present study – the Likert-scale ratings. For these questions, respondents were asked to listen to the speaker and rate that speaker for ten attributes on a five-point scale. The attributes utilized for this study come from previous attitude studies in Michigan (Labov 2001; Preston 1996). The ten attributive scales are provided below in (1). Some of these scales were included to elicit evaluations of the speech itself (e.g. nasally, accented), but many were included to elicit any social/cultural evaluations. For example, from a poor background might indicate a class distinction between the two variants. As for presentation of the scales, the lazy to hard-working scale had the positive attribute (hard-working) on the right towards 5 while the negative attribute was on the left towards 1. The friendly : unfriendly scale, however, had the opposite ordering; the positive attribute (friendly) was on the left towards 1 while the negative attribute was on the right. This was employed to reinforce attention during the survey.

(1) Likert-Scale Attributes
- Lazy : Hard-working
- Uneducated : Educated
- From a poor background : From a more affluent background
- Nasally : Not nasally
- Unaccented : Accented
- Snobbish : Down-to-Earth
- Good English : Bad English
- Like a Democrat : Like a Republican
- Friendly : Unfriendly
- Like me or someone I grew up with : Not like me or someone I grew up with

6. A screen shot of the survey questions is provided in the appendix.
Upon completing the Likert-scale ratings, respondents were asked to give general feedback about the task and the speaker. After providing feedback (or not), respondents were redirected out of the survey and thanked for participating. Respondents spent four minutes on average to complete all components of the survey.

3. Analysis and results

Perceived age of speaker was operationalized by taking the average of all of the ratings (age = 34) and binning respondents based on whether they rated the speaker as being older or younger than that mean. For example, if a listener rated the speaker as being 21, they were placed in the young group. For each of the ten attributes, rating scores were compared using ANOVA tests in R, a free software for statistical computing. In each of these tests, rating score was the dependent variable, while speaker guise (raised or unraised), perceived age of speaker (young or old), and their interaction were entered as independent variables, and respondent was entered as a random variable. Welch two sample t-tests were performed on any interactions that came out as significant in the ANOVA analyses.

There were four attributes for which speaker guise or its interaction with perceived age of the speaker were significant; accented, hard-working, bad English, and educated. I will discuss the results for each in turn.

Accented

Figure 3 displays the average rating scores for the unaccented : accented scale distributed by speaker (raised or unraised), where a higher number means more accented. Here we see that the raised trap speaker is rated more accented than the unraised trap speaker. This main effect was significant in the ANOVA analysis, \((F(1, 34) = 35.57, p < 0.001)\). The main effect of perceived age was not significant in the analysis \((F(1, 34) = 0.59, p = 0.448)\), thus respondents rated the raised speaker as more accented than the unraised speaker regardless of whether they judged the speaker to be young or old.

7. https://www.r-project.org/.
Figure 3. Average rating of *accented* by speaker and age of speaker

Nasally

Figure 4 displays average rating scores for the *nasally : not nasally* scale. Lower scores mean more nasal. Respondents were more likely to rate the unraised TRAP speaker as less nasal than the raised TRAP speaker, \( F(1, 34) = 43.37, p < 0.001 \). As with the *accented* scale, there was no effect of perceived age \( F(1, 34) = 0, p = 0.99 \) on the *nasally : not nasally* scale, thus respondents rate raised TRAP as more nasal than lowered TRAP no matter the perceived age of the speaker.

Figure 4. Average rating of *not nasally* by speaker guise
Hard-working

Figure 5 displays the average rating scores for the lazy : hard-working scale. Higher scores mean more hard-working. Respondents were more likely to rate the raised TRAP speaker as more hard-working than the unraised TRAP speaker, \( F(1, 34) = 9.34, p = 0.004 \). As with the accented and nasally scales, perceived age was not significant \( F(1, 34) = 0.87, p = 0.3568 \) for the hard-working scale, thus respondents rated the raised TRAP speaker as more hard-working than the unraised TRAP speaker regardless of whether they judged the speaker to be young or old.

![Figure 5. Average rating of hard-working by speaker](image)

Bad English

Figure 6 displays the average ratings for the good English : bad English scale partitioned by speaker guise and perceived age of speaker. Higher rating scores mean a perception of bad/incorrect English. In Figure 6, we see that there is a significant interaction such that the effect of speaker guise on ratings for this scale is dependent on perceived age of the speaker, \( F(1, 34) = 9.91, p = 0.0034 \). Respondents who perceived the speaker to be old did not rate the speakers differently (see left facet of Figure 6), \( t(18.59) = -0.118, p = 0.91 \). Respondents who judged the speaker to be old rated the speaker as speaking good English, no matter the speaker guise. Respondents who judged the speaker to be younger did, however, distinguish between raised and unraised TRAP (see right facet of Figure 6). These respondents rated the raised TRAP speaker as exhibiting bad English significantly more than they did the unraised TRAP speaker, \( t(12.57) = -2.89, p = 0.021 \).
Figure 6. Average rating of *bad English* by speaker and perceived age

**Educated**

Figure 7 displays average rating scores for the *uneducated : educated* scale by speaker guise and perceived age of the speaker. Higher scores mean more educated. In Figure 7, we find that overall, the unraised TRAP speaker is rated as more educated than the raised TRAP speaker. This main effect was significant in the ANOVA analysis ($F(1, 34) = 31.1, p = 0.0014$), but appears to be driven by perceived age of the speaker. The interaction between speaker guise and perceived age of the speaker ($F(1, 34) = 7.36, p = 0.0103$) reveals that perceived age of the speaker impacts whether speaker guise effects education ratings. Though for respondents that judged the speaker to be older (see left facet of Figure 7), there appears to be a trend whereby the unraised TRAP speaker is rated as more educated than the raised TRAP speaker, this effect was not significant in the ANOVA analysis ($t(17.9) = 1.56, p = 0.132$), i.e. when respondents perceived the speaker to be older, they found lowered and raised TRAP to be equally educated. When respondents perceived the speaker to be younger (see right facet of Figure 7), however, there was an effect of speaker guise, ($t(15.3) = 5.48, p = 0.0013$). Respondents who rated the speaker as young were more likely to rate the lowered TRAP speaker as more educated than the raised TRAP speaker.
Figure 7. Average rating of *educated* by speaker and perceived age

To summarize, the results of this implicit attitudes analysis find that young white middle-class Michiganders rate raised TRAP as accented, nasally, and hard-working. When heard in the speech of a younger speaker, raised TRAP takes on the additional meaning of exhibiting bad English and uneducatedness.

4. Discussion

The ratings of raised TRAP as nasally were expected in this analysis. Even in studies conducted in the 1990s, Inland Northerners would rate their speech as a bit nasally. Evaluation of speech, however, was never tied to any other social characteristics in previous studies. Here, I quote Campbell-Kibler describing Ohioans’ regard for Inland Northern speech:

> No participants invoke discourses of correctness or education to characterize northern speech […] no comprehensive social image along the lines of *ghetto* or *hillbilly* is invoked to describe northern speech. The only social evaluations offered are descriptions of speech style such as *brusque* and *curt*. (2012: 298–299)
The current analysis, however, finds that raised TRAP is evaluated for social characteristics, at least for northern listeners. The first social evaluation is that a speaker exhibiting raised TRAP is accented. This rating is in direct contrast to studies conducted in the 1990s where Inland Northerners did not rate their speech as accented and in fact thought they spoke standard American English. This rating is echoed in the qualitative comments that have emerged in recent sociolinguistic interviews, in which Inland Northerners remark on the local accent as being inundated with hard /a/. In one example, a speaker in Syracuse remarked that the local accent was a “hard vowel accent I’d like to think I don’t possess” (Driscoll 2016: 83). In my own conversations with Lansing natives, some do not note a distinctive accent spoken in the Michigan area, while others are quick to note that the “hard As are bad around here”, or that “we [Michiganders] have the worst nasally accent”.

Though the accented and nasally ratings are indicative of evaluations on speech style, the remaining three significant attributes (bad English, hard-working, uneducated) are indicative of the social meanings attached to raised TRAP. The combination of these particular ratings appears to suggest that the indexical meaning of raised TRAP, at least for younger speakers, are associated with the working-class as opposed to the middle- or upper-class community members. Therefore, it appears that raised TRAP is less overtly prestigious than the lowered variant. Though, again, social class does not come up in discussions about the dialect and the variants were not rated differently on the from a poorer background : from a more affluent background scale. Therefore, this interpretation is offered with caution. More studies including attributes related to social class would help to better understand how the hard-working rating fits into the indexical field for raised TRAP in the Inland North.

An interesting finding in this study is the interaction between speaker guise and perceived age of the speaker on the educated and good English scales. The unraised TRAP speaker was evaluated as more educated and representative of better English than the raised speaker only when the listener perceived the speaker to be young. When the listener thought the speaker was a bit older, the raised and unraised speakers are perceived equally as educated and both exhibit good English. These findings suggest that community members are aware of age vectors (Sankoff 2019) in their community. They know that raised TRAP is indicative of older speech and, based on their ratings in this task, appear to accept this as a fact. They note that it is accented, nasally, and hard-working, but they are unwilling to judge it beyond that. They do, however, downgrade raised TRAP if they hear it in what they suspect is a younger speaker. Thus, Michiganders appear to be quite aware of the newly developed social meanings of raised TRAP. They are aware that this is a change in progress – thus when they hear it in the speech of an older speaker, there is no social penalty. In the speech of a younger speaker, however, raised TRAP is evaluated harshly. Indeed, awareness on its own does not qualify a phenomenon as a
marker, however, the negative social evaluations of the local raised TRAP variant, coupled with its social conditioning in Michigan production studies, suggest that this phenomenon is well on its way to becoming one. An analysis of style-shifting in Michigan would help confirm this hypothesis, as has been shown in upstate New York. Social class and gender also appear to be conditioning NCS use in the dialect area (Driscoll and Lape 2015; Nesbitt 2021). Though this study did not exploit these other characteristics, it is highly recommended that future analyses consider whether these two (and/or others) are imbedded in the social makeup of raised TRAP.

Because this is one of the few studies to show that the NCS is negatively evaluated, there are many interesting studies that could come out of this work. The first avenue for future research is to conduct implicit attitudes analyses on other features of the NCS in order to ascertain whether TRAP is the only feature to have developed additional social meanings or whether these attitudinal changes apply to other NCS variables. Studies on attitudes towards other NCS features that are receding would allow us to better determine if the entire Inland North accent has developed negative indices. Attitudinal analyses in other Inland Northern communities would also contribute to a broader understanding of dialect decline across the Inland North.

One of the goals of this analysis was to keep the social characteristics of the listeners consistent with what we knew about the leaders of change away from the dialect – young, white, middle-class, mostly female. This has helped to pinpoint how the speakers who actively reject the dialect evaluate it. It does not, however, provide a holistic view of Inland Northern speech by all community members. We leave out the perspective of older speakers, the non-white community, other social classes, and so on. It is unclear, at this point, how the NCS is regarded by these groups – do they share these same awareness and attitudes as the listeners in this study or will we find that the NCS is indeed still an indicator for these community members? I suspect that the latter is most applicable here, because as Johnstone and Kiesling (2008) point out, the social meaning attached to a variable is not likely to be static across the speech community. Future attitudinal analyses including a diversity of Inland Northern speakers and listeners is enthusiastically anticipated.

Another avenue for future research is to investigate attitudes towards the NCS in rural towns. Previous studies have found that rural speakers were adopting this seemingly urban dialect (Ito 2001; Gordon 2001), in part due to its status as an urban symbol. Because many of the listeners in the current study lived near larger cities in Michigan, it remains a question whether positive associations of the NCS are still prevalent in smaller towns in the region.

Nesbitt (2018) discusses the rejection of regional features across North America. There, I hypothesize that this supra-regional trend may be linked to a changing social need in the country. Perhaps the decline of manufacturing jobs brought on
by a rise in service sector jobs has required that community members no longer sound locally marked. Perhaps awareness and negative evaluation is a result of the rise in social media and/or geographical mobility and thus inter-regional contact in the latter half of the 20th century. I posit that all of the above are multifaceted layers of the driving force behind these seemingly disparate changes. I leave these important questions for future research.

In any event, the present analysis finds that the NCS version of trap (raised trap) is negatively evaluated by young, white, middle-class Michiganders and suggests that it is likely rising from a linguistic indicator to a social marker. Therefore, negative evaluation and increased awareness appears not to be confined to upstate New York, but is part of a broader trend in the Inland North dialect area.

References


Thank you for answering questions about yourself. Now you will do the listening task. Please make sure you are in a quiet room and that your speakers/earbuds are working properly. Listen to the following recording by pressing the play button and rate the person that you just heard. You may listen as many times as you like. We ask that you try to provide an answer to each question even if you are not entirely confident in its accuracy.

This person sounds…

- Like a Democrat
- Nasally
- Uneducated
- Friendly
- Snobbish
- Good English
- Lazy
- Unaccented
- Like me or someone I grew up with
- From a poor background

Like a Republican
Not Nasally
Educated
Unfriendly
Down-to-Earth
Bad English
Hard-working
Accented
Not like me or someone I grew up with
From a more affluent background

How old do you think this person is?
Which do you think is likely this person’s occupation? (You may choose as many as you like)

<table>
<thead>
<tr>
<th>Auto Worker</th>
<th>Waiter</th>
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<tr>
<td>Doctor</td>
<td>Manager</td>
</tr>
<tr>
<td>Social Worker</td>
<td>Lawyer</td>
</tr>
<tr>
<td>Nurse</td>
<td>High School Teacher</td>
</tr>
</tbody>
</table>

Where do you think this person is most likely from?

<table>
<thead>
<tr>
<th>New York</th>
<th>Alabama</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Michigan</td>
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</tbody>
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New and old social meanings in urban and rural Sweden

The changing indexicalities of damped /i/

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In this study, we focus on the use of \([i:\]\) (sometimes referred to as damped /i/). This variant has different connotations in different parts of Sweden. In some rural areas, it has traditionally indexed place, whereas it has indexed class and gender in Sweden’s second largest city Gothenburg (Bruce 2010, Gross 2018, Svahn & Nilsson 2014). Previous studies have shown that in the urbanization of Sweden, the urban variant \([i:\]\) has spread from city centers to other locations in Sweden. In the process, it has begun to index urbanity and modernity (see e.g. Svahn & Nilsson 2014). But what happens to this feature in urban Gothenburg where it traditionally has indexed class and gender alongside place? Does the changing social meaning in other locations also affect Gothenburg?

Keywords: indexicality, damped /i/, urban vs rural, perception, Implicit Association Test (IAT), production, language attitudes, class, place, authenticity

1. Introduction

In this study, we focus on the use of damped /i/ and its changing indexicalities in Sweden’s second largest city Gothenburg, in comparison to the small rural village Skärhamn. Damped /i/, phonetically described as \([i:\]\), is a variant of the phoneme /i/ and has different connotations in different parts of Sweden.¹ In some rural areas, it has been described as indexing place, whereas it has been suggested that it indexes class and gender in urban Stockholm and Gothenburg (Elert 1989; Bruce 2010; Kotsinas 1994; Gross 2018; Svahn and Nilsson 2014).

¹ Audio examples of the standard and damped /i:/ are available online: isof.se/socialmeanings_sound.
Previous studies have shown that the urban variant [iː] has spread from city centres to other locations in Sweden in the late 20th century. In the process, it has begun to index urbanity and modernity (see e.g. Svahn and Nilsson 2014). But what happens to this feature in urban Gothenburg, where it has indexed class and gender? Does the changing social meaning in close-by locations also affect the indexicality of damped /i/ in Gothenburg?

In order to investigate this change in the variant’s social meaning, we have approached the phenomenon from three angles. First, we investigated the use of damped /i/ and other Gothenburg variants in recorded data with nine adolescents and twelve adults from Gothenburg. Second, we conducted an Implicit Association Test (IAT; Greenwald, McGhee and Schwartz 1998, Campbell-Kibler 2012), testing to what extent our informants associate damped /i/ with urbanity or rurality. Finally, we interviewed these speakers about their (more or less conscious) attitudes towards damped /i/. By using these methods, we can discuss the relationship between overt and covert attitudes and the use of linguistic form. We then compare the results with a similar dataset of 22 informants from Skärhamn, a rural location 65 kilometres from Gothenburg, where damped /i/ traditionally has indexed place, but where the Gothenburg dialect is gaining ground (see also Nilsson, Leinonen and Wenner 2019).

The article is organised as follows: In Section 2 we describe the linguistic variant damped /i/. Section 3 provides a background on processes of phonological change and indexicality. This is followed by an account of the data collection and methods in Section 4. The results are presented in Section 5. In Section 6, we discuss our results and how the methods used can shed new light on the changing indexicalities of damped /i/, and a conclusion is found in Section 7.

2. The damped /i/

Acoustically, damped /i/ has a lowered and horizontally centralised position. It is however still not certain exactly how the phoneme is produced. An articulographic study with speakers from Gothenburg showed that damped /i/ is articulated with a lower retracted tongue body and a higher tongue tip (Schötz, Frid and Löfqvist 2011), which results in a centralised vowel, in general phonetically described as [ɨ]. Most often, this damped quality affects the long vowel [iː], but it also occurs for the short vowel [i].

Damped /i/ is found in several locations in Sweden, both in traditional dialects in rural areas as well as in urban areas (Björsten and Engstrand 1999; Engstrand et al. 1998; Westerberg 2016). In the Gothenburg dialect, the long damped /i/ has been described as a salient feature, and in earlier research it is even called the
Gothenburg-i (Fagerlind 1922–1923; Björseth 1958). Björseth (1958) noted in the 1950s that damped /i/ is most common among female speakers, and among well-educated men. Andersson (2006) described the Gothenburg-i as a feature that has gained ground among the dialect speaking youth (both women and men) born in the late 1970s and early 1980s. From being a feature used mostly by quite standardised speakers, it is now enregistered in the dialect.

When one of the authors of this study was attending school in central Gothenburg in the 1990s, there was a joke circulating about the affluent area Skår: “When the birds fly over Skår, they go p/iː:/ p/iː:/” (see a similar joke from Stockholm in Kotsinas 1994: 106). The teller would often imitate the damped /i/ in a stylised voice. To those sharing this joke (both adolescents from Skår and those from other parts of the city), damped /i/ was seemingly interpreted as a stereotypical way of speaking for rich and snobbish Gothenburgers from a certain part of the city, i.e. with connotations both to social class and place. Other studies have also described the social meaning of the damped /i/ as snobbish, and a symbol of socio-economic strength in both Gothenburg and the Swedish capital Stockholm (Elert 1989: 45; Kotsinas 1994; Lindström 2003: 118). Further, younger speakers use it to a larger extent than older speakers, and women use it more than men.

Damped /i/ has been described as a clear prestige marker (Bruce 2010: 135–136; Elert 1989: 45). This is true also for other urban areas. According to Bruce (2010: 136), higher sociolects of Southern Swedish and Copenhagen Danish are now beginning to show a damped quality of /i/. He further suggests not only that the damped /i/ is perceived as “the more ‘elegant’ pronunciation” (ibid.), but also that it is “highly contagious and difficult to resist, if one should wish to do such a thing. It would not be surprising if this pronunciation […] became established as standard within a few decades” (ibid.: 216, our translation). It would appear, then, that damped /i/ is a case of change in progress.

Both long and short damped /i/ are found in some scattered rural dialects as well (such as Skärhamn; Kvillerud 1999: 87), where they have different social functions, or indexicality, compared to urban areas. In the areas where the damped pronunciation is part of the rural dialect, speakers tend to leave out this feature when they want to speak more standard-like. In rural areas, damped /i/ is described as a “genuine dialectal feature” (Elert 1989: 45, our translation) and can sometimes be perceived as unsophisticated (Bruce 2010: 125). For this reason, Elert suggests that the vowel may be subject to dialect levelling, as it “tends to quickly be put aside when transitioning into more standard language” (1989: 45, our translation). In this study, we investigate the connotations of damped /i/ in Gothenburg and Skärhamn in the late 2010s.
3. Phonological change and changing indexicalities

The phonological system of any variety is constantly undergoing change. In many locations in the world, local phonological systems become increasingly similar to other phonological systems, forming larger regional or standard language systems (see e.g. Auer 2005). Such levelling processes have been the focus of numerous socio-dialectological studies over the past decades (see e.g. Pedersen 2005; Gregersen and Kristiansen 2015; Sandøy 2015; Auer 2005; Kristiansen and Coupland 2011 as well as Kristiansen and Grondelaers 2013). Several of these studies point to urbanisation as a driving force in standardisation. Language contact can also result in new varieties, such as mixed, fudged, scrambled and fused lects, and also koinés (see e.g. Siegel 1985; Trudgill 1986; Chambers and Trudgill 1998; Auer 1999; Auer, Hinskens and Kerswill 2005; Kerswill 2002). This is often the case in cities, where many new varieties form and evolve over time due to migration and language contact.

In a contact situation, a certain local linguistic phenomenon can achieve new potential to index localness and even authenticity, both within a community and in relation to other communities with contrasting linguistic traits (see e.g. Woolard 2008). This was the case in Labov’s seminal study of Martha’s Vineyard (1963), and similar results have also been found in following studies (see e.g. Johnstone and Kiesling 2008 and for Sweden Nilsson and Wenner 2017).

A model for the idea of indexicality, or the semiotic relationship between linguistic forms and social meanings, was put forward by Michael Silverstein (2003), and has since been used and discussed by several scholars (see e.g. Wassink and Dyer 2004; Johnstone 2009; Johnstone, Andrus and Danielson 2006; Johnstone and Kiesling 2008; Woolard 2008).

Johnstone and Kiesling (2008) discuss Silverstein’s indexical order in terms of first-order, second-order and third-order indexicality, and compare it to Labov’s terms indicator, marker and stereotype. According to them, first-order indexicality means that it is possible to point out a correlation between the use of a language variant and a specific group, such as damped /i/ being used mostly by females or by males with higher education in the 1950’s in Gothenburg (an indicator, in Labovian terminology). Second-order indexicality means that linguistic features can be used to do social work. Speakers start to notice these variants, and might use them to mark social class or education, so that damped /i/ becomes a resource in positioning oneself as belonging to a socio-economically stronger group in Gothenburg (i.e. markers, according to Labov). Third-order indexicality (or a stereotype in Labov’s terms) means that people start to link the second-order stylistic variation

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2. To people outside of Gothenburg the damped /i/ indexed place, i.e. Gothenburg.
to a certain identity and are able to make metalinguistic comments about it. The damped /i/ in the late 20th century is an example of this, when jokes were made in a stylised way (both by those from that area and others) about birds using this feature while flying over the area with the most expensive property in the city, thus linking the feature to the wealthy.

When reaching third-order indexicality, a linguistic form can be used to “perform local identity, often in ironic, semi-serious ways” (Johnstone and Kiesling 2008: 9). This may lead to the eventual disappearance of the form from a variety (Labov 1972; Johnstone and Kiesling 2008). It is also possible that these features remain in use, but with a new meaning (see e.g. Wassink and Dyer 2004). Another possible outcome is simply when a feature has become so common it loses its potential to do anything specific to speakers of that variety, and they might no longer even be aware of their own use. People from other places may, however, still notice and attach meaning to it.

The indexicality of a linguistic variant is not static, but evolves over time. For example, social categories (such as class or ethnicity) can lose their relevance in a speech community (Woolard 2008). The social meaning of a linguistic variant also depends on how the speakers of a variety perceive it, and can be affected by how those who speak other varieties perceive it. In addition, not everyone in a community assigns the same indexical meanings to a linguistic feature.

Each individual entering a conversation brings with them their own linguistic style, a repertoire with the possibility of indexing or performing different social stances or memberships to certain groups in given contexts (Eckert 2000; Woolard 2008; Pharao et al. 2014). This does not mean that all those social stances are performed, or are even relevant, to a speaker all the time. There are often semiotic relationships between linguistic variants and social meanings, but not all speakers of a variety are likely to interpret these relationships in the same way (Johnstone and Kiesling 2008: 6; Johnstone 2013). As pointed out by Johnstone and Kiesling (2008), linguistic features can be heard as indexing both second- and third-order indexical meaning by listeners, without this ever being the intention of the speaker. As researchers, we can find and describe repeated patterns of language use among certain groups such as ‘female’, ‘old’, ‘socio-economic strong’ etc. This does not, however, mean that speakers themselves interpret their own use of linguistic variants as resources to perform certain parts of their identities, nor that they assign these meanings to linguistic features in every conversation.

We believe it is essential to take how speakers talk about and interpret their own linguistic variety into account, and not merely consider the researcher’s interpretation of the meaning of a linguistic form (see also Wassink and Dyer 2004). Equally important is to not only focus on listeners or speakers, but rather combine perception and production tests with reports of language ideology (Johnstone and Kiesling
In order to avoid the ‘intentional fallacy’, i.e. the assumption that it is possible to derive a speaker’s intention from a hearer’s interpretation (ibid.), we combine production and perception tests with attitude interviews with the same informants. This combination of methods helps us understand our informants’ possible interpretations of the semiotic values of damped /i/ in their respective communities.

4. Data and methods

In this section, we describe the data and methods used for this study. In 4.1, we briefly give background information on Gothenburg and the Gothenburg varieties, as well as the location we use as a comparison – Skärhamn on the island Tjörn. In 4.2, we describe the informants. In the following sections, we describe the different methods used in the data collection: in 4.3 the production test, in 4.4 the Implicit Association Test (IAT), and in 4.5 the attitude interviews.

4.1 Locations and dialects: Gothenburg and Skärhamn

Gothenburg is Sweden’s second largest city with 600,000 inhabitants, and a total of one million including the surrounding suburbs. It is situated on the west coast (see Figure 1) and has the largest port in the Nordic countries. The population of Gothenburg increased rapidly around 1900 due to industrialisation, and Gothenburg has been regarded within Sweden (and still is to some extent) as a ‘worker’s city’. As it is situated on the border of three dialect areas, the workers migrating to the city at the turn of the last century brought with them different dialects, and a koine variety formed around 1900 (Andersson 2019; Svahn and Nilsson 2014).

This Gothenburg variety was and is still associated with the working class and is not a standard variety. A separate variety evolved among the upper class in Gothenburg, with some distinctive dialect variants (Andersson 2019), and was described as early as 1920 (Fagerlind 1922–1923).

Due to increased immigration from other countries, there are at least four varieties of the Gothenburg dialect today (even though many speakers will use parts of several varieties): (1) a traditional Gothenburg dialect associated with the working class, (2) a Gothenburg upper class variety, (3) a standardised regional Gothenburg variety and (4) a north-eastern Gothenburg variety with multilingual influence (see also Andersson 2019; Gross 2018).

Previous studies suggest that the Gothenburg varieties are spreading from the urban centre into the surrounding area (Grönberg 2004; Svahn and Nilsson 2014).
The indexical values of the Gothenburg varieties outside of Gothenburg have not been investigated in depth, but it is likely that their features often index urbanity rather than social class (see also Nilsson 2017).

We also make a comparison to the use and perception of damped /i/ in Skärhamn. Skärhamn is a small rural community situated in the region Bohuslän, with approximately 3,200 inhabitants, 65 kilometres from Gothenburg (see Figure 1). It is situated on the island of Tjörn (which is connected to the mainland by a bridge), which has 16,000 inhabitants in winter and twice as many in summer. There are primary schools in Skärhamn, but in order to attend obligatory high school education, Skärhamn residents need to commute 20 kilometres to Stenungsund (pop. 10,000). The percentage of Gothenburg-born residents in Stenungsund is high, and a large number commute between Stenungsund and Gothenburg daily.3

3. Source: Statistics Sweden’s web page (http://www.scb.se/en); see also Nilsson 2017 for more details on this.
The Gothenburg varieties are becoming very dominant in Stenungsund, and the younger Stenungsunders speak a Gothenburg variety, sometimes with a few local dialect features (Svahn & Nilsson 2014).

Skärhamn has a traditional dialect, very similar to the traditional Stenungsund dialect, and many still speak this variety with more or less influence from the Swedish standard variety. However, Gothenburg varieties are also gaining ground in Skärhamn, and a part of the population speaks a variety somewhere between the traditional Gothenburg dialect and the standardised regional Gothenburg variety (Svahn and Nilsson 2014). Some Skärhamners also speak a variety consisting of features from both the traditional local dialect and the traditional as well as standardised regional Gothenburg variety, alongside other urban variants and standard variants. This is not a scrambled, fudged or mixed dialect, nor a koine (Chambers and Trudgill 1998; Kerswill 2002), but rather speakers make use of different variants in different combinations. This variety has been coined combilect (Svahn and Nilsson 2014; Nilsson 2017). In sum, the linguistic situations in both Gothenburg and Skärhamn are very heterogeneous and complex, and the inter-individual variation is extensive.

4.2 The informants

We have collected data from 21 informants from Gothenburg. Nine of these are adolescents aged 16 to 18 (born in the early 2000s) and the other twelve are adults aged 50 to 68 (born between 1950 and 1968). All consider themselves to be from Gothenburg4 and most also have one or two parents from Gothenburg or the surrounding area. In this study, we have not included any informants from northeast Gothenburg (but see Gross 2018).

We compared the Gothenburg informants to 22 informants from Skärhamn. All of these were born in or in very close proximity to Skärhamn. Most of the Skärhamn data was collected for a study on the changing indexicalities of damped /i/ in rural Sweden (Nilsson, Leinonen and Wenner 2019). However, as we wanted to compare younger and older informants’ language use and attitudes in the present study, and the rural study mostly investigated adults, we also collected new data with four adolescents from Skärhamn. In total, six informants are below 40 in this 4. Of the adolescents, one informant claimed to be both a Gothenburger and West Swedish, as he was born and still resided quite far from Gothenburg city (60 kilometres). As he himself identified as Gothenburger and attended school in the city centre, he is included in this study. His results do not stand out compared to the other informants, and he spoke a Gothenburg variety and used the damped /i/.
data set, and the rest are between 40 and 70. The Skärhamn data set is used as a comparison to Gothenburg in this study.

The data collection with all informants consisted of three parts. First, the informants partook in a recorded production test. Second, we conducted an IAT. All informants were informed that they were partaking in a linguistic study, but we did not tell them that we were interested in the damped /i/ before the production and IATs (and in doing so hopefully minimizing their awareness of this specific linguistic variant during the test). Finally, we made a short interview about the damped /i/ and the informants’ attitude towards the dialect situation in their local society. These three data sets are presented in the following.

4.3 The production test

The production test consisted of two parts. In the first part, the informants read a short text on the computer screen, and in the second part, they read 46 single words appearing on the screen. The text and the words included several instances of /i/. In addition, the text and words included all Swedish vowels, in order to collect data on the informants’ complete vowel system. This made it possible to see whether damped /i/ coexists with modern/urban pronunciation of other phonemes.

There are several linguistic variants in the Gothenburg varieties that set them apart from standard Swedish. Some of them are considered traditional Gothenburg features (Andersson 2019; Svahn and Nilsson 2014), while others are described as modern pronunciations used in urban areas in several parts of Sweden (see e.g. Leinonen 2010; Wenner 2010; Svahn and Nilsson 2014). From the production test and the interview data, we have analysed each informant’s use of any of the Gothenburg variants as well as typical urban variants. In Skärhamn, we also noted to what extent the informants used the traditional dialect. In both locations, we have noted which informants used the damped /i/. In the following we describe the investigated variables.

A traditional Gothenburg feature is pronouncing short /u/ as [o]. Short /o/ in turn can be pronounced as [ə] ([ə] is a variant of /u/), and today many Gothenburgers have a merger of the two short vowels /u/ and /o/. Another typical traditional Gothenburg feature is the lowering of the short vowels /i/ and /y/, into [e] and [ø]. Two other traditional Gothenburg variants are the long vowels /a/ and /ʉ/ pronounced as [ɔ:] and [ʏ:] (instead of [ɑ:] and [ʉ:] in standard Swedish).

In the traditional Gothenburg variety, /r/ is often a trill ([ɹ]), whereas speakers of the upper-class variety, often use a fricative [ʂ]. Further, the pronunciation of /ʃ/ varies between [ʂ] and [ʃ]. The former has, at least in early descriptions, been associated with the upper class and women (Bruce 2010: 166).
Two modern features that are spreading quickly in Sweden are the more open pronunciations of the long vowels /ɛ/ and /ø/, which have allophonic variation with more open variants ([æ:], [œ:]) preceding /r/. Many young speakers today use the pronunciation found only before /r/ in Standard Swedish in all word contexts. Older speakers have a relatively close pronunciation, while younger speakers have a more open pronunciation. The change is taking place in urban areas, and these two vowels are presently the features that seem to differ the most between older and younger generations (cf. Leinonen 2010; Kotsinas 1994; Andersson 1994). Leinonen (2010) has also shown that there is a general trend in rural areas close to Stockholm and Gothenburg, as well as in other parts of central Sweden, for /ɛ:/ and /ø:/ to be realised with a more open pronunciation by the younger generation.

In order to examine whether there is any connection between the use of damped /i/ and the use of traditional Gothenburg features, on the one hand, and urban/modern features on the other, we have analysed the Gothenburg informants’ production of the long vowels /a/ /ʌ/, /y/, /ɛ/, /ø/, the short vowels /i/, /y/, /ʊ/, /ø/ as well as the consonants /r/ and /ʃ/ (see Table 1). Of these variants, we consider the open pronunciations /ɛ/ > [æ:] and /ø/ > [œ:] to be modern urban features, and the [ʌ] and [s] to be upper class Gothenburg features, whereas the others are traditional Gothenburg features. The short /ʊ/ > [ʊ] is a modern urban feature in many locations in Sweden, but has been used in the traditional Gothenburg dialect for a very long time. We therefore consider it a traditional Gothenburg variant in this study.

Table 1. The investigated variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standard Swedish pronunciation</th>
<th>Traditional Gothenburg variant</th>
<th>Urban variant</th>
<th>Upper class variant</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/</td>
<td>[i]</td>
<td>[e]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/y/</td>
<td>[y]</td>
<td>[ø]</td>
<td></td>
<td></td>
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<tr>
<td>/a/</td>
<td>[u]</td>
<td>[o]</td>
<td></td>
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<td>/ø/</td>
<td>[œ]</td>
<td>[o]</td>
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<td>/ʌ/</td>
<td>[œ:]</td>
<td>[œ:]</td>
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<td>/u/</td>
<td>[u:]</td>
<td>[œ:]</td>
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<tr>
<td>/ɛ/</td>
<td>[ɛ:]</td>
<td>[æ:]</td>
<td></td>
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<tr>
<td>/ø/</td>
<td>[ø:]</td>
<td>[œ:]</td>
<td></td>
<td></td>
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<tr>
<td>/r/</td>
<td>[r]</td>
<td>[œ:]</td>
<td>[x]</td>
<td></td>
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<tr>
<td>/ʃ/</td>
<td>[ʃ]</td>
<td>[ʃ]</td>
<td></td>
<td></td>
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</tbody>
</table>
4.4 The Implicit Association Test (IAT)

The Implicit Association Test (IAT) was constructed as a tool to investigate covert attitudes (Greenwald, McGhee and Schwartz 1998). It is a computer-based test where the research subject quickly and intuitively pairs two target concepts with an attribute. The stronger the association between two concepts, the easier it is to quickly react to them as related.

The aim of our IAT is to investigate to what extent our informants associate different pronunciations of /i/ to urban and rural areas, respectively. The informants’ task is to match damped and cardinal /i/ with either urban or rural. If the damped /i/ is strongly associated with urban, it should then be easier to respond faster when asked to give the same response (e.g. press down a certain key on the keyboard) for the two stimuli. If the damped /i/ however is not associated with urban, the reaction time should be longer when damped /i/ and urban are presented together in the IAT.

The four stimuli categories used were urban, rural, cardinal /i/ and damped /i/. In the two first categories the stimuli were made up of pictures of typical Swedish rural and urban landscapes. The other two categories consisted of audio stimuli of five different Swedish /Ci:C/ words. We created two tests, one with sound stimuli produced by a Gothenburg speaker and one by a Skärhamn speaker, both pronouncing the words with damped /i/ as well as with cardinal /i/. The durations of the stimuli were subsequently manipulated to fixed durations. Hence, for both the Skärhamn and the Gothenburg stimuli speaker, there were a total of ten stimuli, i.e. five stimulus pairs differing only in the pronunciation of /i/.

All our informants conducted both tests. First, they performed the IAT with the speaker from Skärhamn, and second, the IAT with the speaker from Gothenburg. The order of the tests was counterbalanced across participants, so that half of the participants had damped /i/ on the left side and cardinal /i/ on the right side and the other half had it the other way around.

The IAT experiment was set up using PsychoPy (Peirce 2007), and the participants performed it on a laptop computer with Audio-Technica headphones. The results consist of one $D$ score (Greenwald, Nosek and Banaji 2003) per IAT and participant. A $D$ score close to zero means there was no IAT effect at all, while a positive $D$ score implies that damped /i/ is associated with urbanity and cardinal /i/ with rurality, and a negative $D$ score implies that damped /i/ is associated with rurality and cardinal /i/ with urbanity.

An IAT is a quantitative measure designed to investigate attitudes of certain groups, rather than the attitudes of individuals. We have therefore not analysed how each informant performed in the IATs, but investigated our informants as parts of groups based on place of residence (Gothenburg or Skärhamn) and age (below 40 or over 50). The production test and attitude interviews have, however, been analysed both on a group level and on an individual level.
4.5 The attitude interviews

After the production test and the IAT, we conducted short interviews with all the informants. In the older data set from Skärhamn, the informants were asked questions about their own and others’ realisations of damped /i/, as well as their associations and attitudes towards damped /i/. The informants in the new data, i.e. all Gothenburg informants and the four Skärhamn adolescents, were asked additional questions about their feelings towards the community they live in and the dialects spoken there. Many of the Skärhamn informants from the old dataset touched upon this subject in the interviews, even though not asked explicitly, but this dataset differs somewhat regarding the attitude interviews. We believe that attitudes towards one’s own place of residence, as well as one’s own dialect, is central to understanding how dialect speakers form their local identity (see also Taylor 2012: 25; Nilsson and Nylund Skog 2019) and can aid in explaining changing indexicalities of linguistic features in a location. Even though the interviews hardly give us the full picture of the Gothenburgers’ and Skärhamners’ attitudes, they show tendencies of how informants position themselves towards their own and others’ dialects.

Through the interview data, we also received additional production data used in the analyses of the informants’ linguistic repertoire. All informants were native speakers of Swedish, and the interviews were conducted in Swedish. In the following we idiomatically translate all the answers from the interviews into English for ease of exposition.

5. Results

In this section, we first describe the results of the production test (5.1), then the results of the IAT (5.2) and finally, the results of the interviews (5.3).

5.1 Results of the production test

The Gothenburg informants all spoke some form of the Gothenburg varieties. Most informants spoke a standardised regional Gothenburg variety, but some informants were more traditional, especially prosodically. The number of informants using traditional Gothenburg variants, urban variants and upper class variants are presented in Table 2.

One adult informant spoke the Gothenburg upper class variety (see Section 4.1). All of the informants used a front /a/ (pronounced [ʏː]), and all but one (the upper-class speaker) the [ʃ]. Of the other traditional Gothenburg variants, no informants used [e] for short /i/ nor [ø] for short /y/. The fact that none of the Gothenburg informants use this lowering of /i/ and /y/, even though they are still
considered typical Gothenburg features, suggests that they are disappearing from the Gothenburg variety. Our observations suggest it can be used in contemporary Gothenburg as a third order indexical when joking or performing a Gothenburg identity.

The pronunciation [ø] for short /ʉ/ also seems to be disappearing, and most informants did not have any tokens of this variant. Further, there is a clear age difference in realising the variable /a/ as the traditional dialect variant [ɔː]. None of the younger informants use the traditional variant, but it is quite common among the older informants. However, the use of short /ø/ pronounced as [ɵ] is quite common in the data and was used to a varied degree by six adolescents and nine adults.

One adult informant, a female academic, used features associated with the upper-class Gothenburg variety ([ʂ] and fricative [ɹ]). This informant is one of few informants who does not use [ɔː] for the vowel /a/. Two more adolescents used fricative [ɹ]. No adults used the newer urban variants long open [æː] or [œː]. All the adolescents used the open [æː], and five out of nine tended to slightly open their long /ø/ (resulting in [œː]) in some cases. All Gothenburg adolescents but one used the damped /i/, and all the adults used it, even though some only used it sporadically.

In contrast, the linguistic situation in Skärhamn is very heterogeneous. Some of the informants speak a very traditional dialect, while others are quite levelled (see also Nilsson, Leinonen and Wenner 2019). Others speak the comblect typical of the area, i.e. use both traditional dialect variants, Gothenburg variants, standard variants and urban variants, and a couple of the young informants speak a regional Gothenburg variety (Svahn and Nilsson 2014). None of the recorded adolescents use a very traditional variety. In Skärhamn, 17 out of 22 informants use the long damped /iː/. 14 of these 17 also use the short damped /iː/, which is still unequivocally a traditional dialect feature.

<table>
<thead>
<tr>
<th>Table 2. Results of the investigated variables (number of informants)</th>
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<tbody>
<tr>
<td><strong>Trad. Gothenburg variant</strong></td>
</tr>
<tr>
<td>/i/ pron. [e]</td>
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<tr>
<td>/y/ pron. [ɔ]</td>
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<tr>
<td>/u/ pron. [o]</td>
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<tr>
<td>/o/ pron. [o]</td>
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<tr>
<td>/a/ pron. [ɔː]</td>
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<td>/u/ pron. [œː]</td>
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<tr>
<td>/ɛ/ pron. [æː]</td>
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<tr>
<td>/o/ pron. [œː]</td>
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<tr>
<td>/r/ pron. [ɹ]</td>
</tr>
<tr>
<td>/h/ pron. [ʂ]</td>
</tr>
</tbody>
</table>
5.2 Results of the IAT

To begin with, we tested the proportion of correct answers to the sound stimuli. If the level of correct answers is greater than chance level, it means that the informants can tell the difference between the stimuli damped /i/ and cardinal /i/, but do not necessarily associate the difference to urban or rural. Our analyses show that both tests have significant results in both locations, meaning that the informants can tell the damped /i/ and cardinal /i/ apart. We could also see that the order in which the tests were carried out had no effect on the results. The Gothenburg informants did, however, have more difficulties hearing the difference between the two variants of /i/ performed by the Skärhamn voice than the Skärhamn informants did.

For each IAT we want to know whether the $D$ score significantly deviates from 0. This has been tested with two-tailed t-tests. The results show that the Gothenburg informants have no significant effect in the test based on the Skärhamn stimuli. In the test with the Gothenburg stimuli, there is a small significant effect ($p < 0.1$), suggesting that the Gothenburgers as a group tend to associate damped /i/ with rural rather than urban. At the same time, there are informants with negative $D$ scores (association to ‘rural’) as well as those with positive $D$ scores (association to ‘urban’). There is also a difference between the two age groups, and the younger informants have an especially small $D$ effect, which could indicate that the distinction rural/urban in relation to /i/ is not relevant to younger Gothenburgers.

In contrast, the Skärhamn informants associate damped /i/ with rural and cardinal /i/ with urban, and the $D$ score is significant for both tests. The majority of the older informants in Skärhamn show negative $D$ scores (in relation to stimuli from both Gothenburg and Skärhamn), i.e. they associate damped /i/ with rural. The younger Skärhamn informants show more variation, and are more similar to the Gothenburg informants.

5.3 Results of the attitude interviews

The Gothenburg informants are in general positive towards Gothenburg and say it “feels like home” (male, 18 years old), is a “nice good place” (male, 16) and a “very pretty city” (male, 66). A 58-year-old male says: “I love Gothenburg. Really. It is the best city I know, with all its faults and errors”. One 17-year-old female reports that it is part of her identity and that she wants people to know that she is from Gothenburg. Other informants say “I think it is a nice city. A pleasant city. It is MY city” (female, 55 years), and “I am quite faithful to Gothenburg […] A Gothenburger and very proud. Like it here. Proud of that” (female, 50). Only one adolescent favours the countryside, and one 50-year-old male says it is “a fairly ugly and destroyed city” (but also adds that there “are some gems”). It seems most of
our informants express that Gothenburg has importance for their identity (Taylor 2012: 2), and that they are quite loyal to their hometown.

Most of the Gothenburg informants also explicitly identify themselves as Gothenburgers – only a few informants claim to identify as something else, such as West Swedish, or suggest that local identity is not that important. The majority of the Gothenburgers also say that they want to live in Gothenburg in the future. A few of these informants state that they would enjoy living abroad, but if they were living in Sweden, they would prefer Gothenburg. One 17-year-old female says she would prefer to live abroad in the U.S. or Canada, but if she was to live in Sweden, she would of course live in Gothenburg. A 58-year-old male points out that if he left the city for a while, he “would always come back”. He also says, “I have lived here my entire life so I want to be here”, again expressing loyalty to Gothenburg.

The Gothenburg adolescents are neutral or positive towards the Gothenburg dialect. Some suggest that there is “nothing wrong with it, but [it is] nothing special”, or “the usual”. To them, it seems, speaking this variety is unmarked. Some Gothenburg adolescents express more positive attitudes and state that they like the dialect and that it sounds nice. One 18-year-old female points out that the Gothenburg dialect sounds like standard Swedish, which, according to her, is positive. To her, the Gothenburg variety is the norm.

The attitudes among the adult Gothenburgers are more diverse. A few claim to like it and say “It is very safe and very natural, sometimes I don't even hear it. It is a part of me […] the Gothenburg dialect is so much mine” (female, 50), and that it is “a pretty nice dialect. It feels happy and friendly, but at the same time solid” (male, 50). Others are more ambivalent. “It is not pretty in any way, but at the same time you can feel that when you hear it on TV for example it can feel a little safe with your own dialect” (female, 60). One informant says, “I think it is okay, it is usually perceived as positive by the surroundings. What you can say that is negative is that it's not the most academic and there is a risk in how people will perceive you when you speak” (male, 66). This informant apparently makes an association between the working class and the Gothenburg variety. This is also expressed by other Gothenburg informants, for example by an 18-year-old female who points out that there are different types of Gothenburg dialects and that the more “coarse” variety “is [spoken by] middle aged men who like IFK” (the local football team). The only speaker of the upper-class variety says that “it is a pretty coarse dialect, I think, with rather coarse sounds. […] Not a very pretty dialect” (female, 55). At the same time, most of the adult Gothenburg informants acknowledge that they speak this variety themselves, and it seems that the variety, pretty or not, is part of being a Gothenburger. A 50-year-old male said: “I hear quite a few teens that speak broad Gothenburgese and that’s delightful”. In the words of Taylor (2012: 117), “dialect creates, maintains and performs belonging” for these informants.
The interviews carried out in Skärhamn with the majority of informants did not contain questions about living in Skärhamn. The newly recorded adolescents do, however, answer questions about place, and they all like Skärhamn/Tjörn and would be happy to live there in the future, alternatively in close-by Stenungsund or Gothenburg.

All Skärhamn informants were asked about their attitudes towards the local dialect, and the majority were very positive towards the traditional dialect. Of the younger Skärhamn informants, three were positive towards the traditional dialect, two were neutral and one informant did not like it very much, but liked his own variety (which was a comblect with some traditional dialect features, Gothenburg features and standard features). Both the Gothenburg and Skärhamn informants seem to be rooted in and oriented towards West Sweden – no one suggests moving to eastern Sweden or the capital Stockholm.

Even though all but one Gothenburg informant use the damped /i/ to some extent, only four state that they might use it. All the others claim that they do not. One informant says (when asked if she uses the damped /i/ herself), “oh, I never thought about it. I don’t think so. I think I am perceived very much as a Gothenburger” (female, 50). To this informant, it seems that using the damped /i/ is not part of ‘being a Gothenburger’. In other words it is used by someone else, somewhere else and is not part of an authentic Gothenburg identity.

In Skärhamn, in comparison, most report that they use /i/ in at least some contexts, even informants that did not use it in the production test nor in the interview. It is possible that they indeed use the damped /i/ in other contexts, but it is also possible that some informants are unaware of their own use and, in some cases, also believe that it is typical of their own dialect, and therefore report usage.

In Gothenburg, the young informants are, in general, unsure of the origin of the voices in the stimuli in the IAT (Skärhamn and Gothenburg). Three of these informants suggest that they are from Gothenburg or Stockholm. Of the adults, eight informants suggest that the voice using the damped /i/ is from Bohuslän (i.e. the area where Skärhamn is situated). None of them suggest that any of the speakers are from Gothenburg. It seems that the Gothenburg informants believe that one voice is producing the damped /i/ and another voice the non-damped, when in reality the two stimuli speakers both produce damped and non-damped /i/ in the IAT. The Skärhamn informants claim that they easily identified the damped /i/ in the test, and suggest that both stimuli were from the Tjörn-area. Several also report that they found it easier to connect damped /i/ and rural in the IAT.

All informants in Gothenburg and Skärhamn were asked whether they like the damped /i/ or not. The younger informants in Gothenburg mostly expressed no opinion of damped /i/. Two of these younger Gothenburg informants, however, say it is “lovely”, and one of them explicitly makes an association to the countryside.
When the Gothenburg adolescents are asked what associations they have, they suggest “rural” and “dialect”. One Gothenburg informant suggests “Gothenburg and mostly girls” and another “upper class”. These two latter informants are apparently aware of the existence of damped /i/ in Gothenburg, and suggest it connotes gender and class.

The Gothenburg adolescents in general do not, however, know where the damped /i/ is used. One 18-year-old woman says “It sounds kind of like Norrland”. Apparently, this informant thinks that this linguistic feature is used as far away as possible from Gothenburg, in the very north of Sweden. Other young Gothenburg informants say that they do not know, or suggest other parts of Sweden, such as southern Sweden, Stockholm or outside cities.

The Gothenburg adults express more awareness of, and also have stronger opinions about, damped /i/. All Gothenburg adults know that the variant is a traditional dialect feature in Bohuslän (where Skärhamn is situated), north of Gothenburg. Four Gothenburg adults also state that it is a Gothenburg feature, and suggest that the damped /i/ has a connection to the socio-economically stronger residents of Gothenburg (and Stockholm). In other words, damped /i/ indexes class to these informants.

Some Gothenburg adults are positive, and say damped /i/ is “charming” and “lovely”, and is used by traditional dialect speakers such as farmers and fishermen on the island of Tjörn (where Skärhamn is situated). Others are less positive: according to them it is “ugly, thick and tiresome” (male, 68) and “funny, but not pretty” (female, 62). Several also point out the different connotations they have: “snobbish if it is from Stockholm, but cosy [if it is from] farmers on Tjörn” (female, 52), “pretty when it is genuine in the archipelago, not as genuine in the Stockholm dialect” (male, 50) and “picturesque and nice and pleasant and fun that it is still in use when I hear a fisherman up in Bohuslän talk [but not] when Gyllenhammar uses it” (male, 58).

Other informants explicitly suggest that the damped /i/ is used by the upper socio-economic group: “some /i/ can sound a little upper class, a little posh. Örgryte Gothenburgese” (male, 66). In other words, when speakers from the traditional dialect area Bohuslän, north of Gothenburg, use damped /i/, it indexes place to the adult Gothenburg informants, but when someone in Gothenburg or Stockholm uses /i:/, it indexes class to at least some of the informants. In so far as the adolescents make any associations, these are only “someplace else”, i.e. it refers to place but not a specific place.

5. Gyllenhammar was the CEO of Volvo and spoke an upper class Gothenburg variety.
6. Örgryte is an affluent area in central Gothenburg.
In Skärhamn, the attitude towards damped /i/ is ranging from neutral (being the unmarked and ordinary) to very positive. Some informants just take the damped /i/ for granted and say “not much you can do, it is what it is” (male, 62). Others express warmer feelings towards the variant and think of “home, safe, here on Tjörn. Part of the traditional dialect” (female, 58). One informant says that “it is important that this heritage remains” (female, 31).

In general, the Skärhamners strongly associate damped /i/ with rural and local, i.e. place, but also to traditional values and authentic local identity. This may change over time. One of the adolescents in Skärhamn reports “I think of Stockholm and people from Stockholm” (male, 16). It is possible that the indexicality of damped /i/ may be undergoing change in Skärhamn to connote urbanity. In the following section, we discuss the changing indexicalities of /i/ in both Gothenburg and Skärhamn and triangulate the methods used.

6. Summary and discussion

In this paper, we have investigated the processes behind changes in social meaning for a linguistic form. The three methods used to investigate this – the production test, the IAT and the attitude interviews – together give us a complex picture of the social meaning of damped /i/ in Gothenburg and Skärhamn in the 2010s. Our study reveals that most informants from both Gothenburg and Skärhamn use damped /i/, but have very different awareness of, associations with, and attitudes towards it.

All the Gothenburg informants speak some variety of the Gothenburg dialect and all except one also use the damped /i/, but are generally not aware that they do. The IATs show that the informants generally make no clear association to urban, but rather rural, and that the younger generation makes no associations at all, suggesting that the distinction between urban and rural in relation to damped /i/ is not relevant to them.

The attitude interviews give additional information: several Gothenburg informants born between 1940 and 1970 still connect damped /i/ with class in a Gothenburg context, while they associate it with place and authenticity when they think of the rural dialect area where Skärhamn is situated. The younger generation does not know where the damped /i/ is used and makes no such clear associations. To them, damped /i/ is something that might be used by ‘others’ in distant rural places. The Gothenburgers’ reported attitudes towards damped /i/ are ranging from negative (when associated with snobbish, rich and powerful) to positive (when associated with genuine dialect speakers in another dialect area). Most are however positive to the Gothenburg dialect, suggesting that the Gothenburg informants do not see the damped /i/ as part of the local variety. Further, as all informants in
Gothenburg seemingly use damped /i/ unconsciously, the damped /i/ cannot be seen as a resource to claim a local Gothenburg identity, nor to express social class or a certain way of life.

In comparison, most Skärhamn informants use the damped /i/, and they also report that they do. There is inter-individual variation in the use of local dialect, with some speakers being rather standardised, others very traditional and some speaking the new combilect of the area. The IATs show that the Skärhamn informants can identify damped /i/ easily, and that they in general associate it with rural, even though the younger informants have less clear correlations between damped /i/ and rural and are more similar to the Gothenburg informants. The attitude interviews further suggest that the damped /i/ is strongly associated with traditional local authenticity, and most informants report positive attitudes both to the damped /i/ and the traditional dialect in general. One young informant deviates from this pattern and proposes that the damped /i/ is an urban feature.

We have compared the production, perception and reported attitudes towards damped /i/ in Gothenburg to Skärhamn. By comparing two different locations within the same nation (and only 65 kilometres apart), we have shed light on the fact that processes for changing social meaning of a specific feature can be different in different locations. A phoneme does not have indexical meaning in itself, but a potential to index something that is constructed and reproduced in interaction between citizens in a specific location (see also Eckert 2008). The indexical power of a linguistic form does not only vary over time and with place, but as we have seen from the attitude interviews, it is also interpreted differently by different individuals (see also Johnstone and Kiesling 2008). Further, an individual can assign different indexical meanings in different situations and to different speakers, and as we saw above, some informants make a distinction between e.g. farmers’ use and a CEO’s use of damped /i/. The IATs and attitude interviews show that damped /i/ has a more prominent social meaning to older informants, and more so in Skärhamn than in Gothenburg.

In sum, the indexicality of damped /i/ is changing, but in different ways in the urban Gothenburg and in the urbanised rural Skärhamn. This is illustrated in Figure 2.

<table>
<thead>
<tr>
<th>1950s</th>
<th>1990s</th>
<th>2000s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gothenburg</td>
<td>class &amp; gender → class → other place/class/nothing</td>
<td></td>
</tr>
<tr>
<td>Skärhamn</td>
<td>place → local authentic identity</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Illustration of the changing indexicalities of damped /i/ over time in Gothenburg and Skärhamn
The damped /i/ has had the ability to mark social class in Gothenburg and might have had the status of a prestige marker, which could explain the rapid spread in Gothenburg. As so many speakers in Gothenburg use it today, it seems to have lost its potential to mark social class. In the process, it has become less salient to Gothenburgers. In contemporary Gothenburg, the damped /i/ has thus gone from being a third-order indexical, or stereotype, to being unnoticed by many Gothenburgers. At the same time, people from other parts of Sweden may still associate damped /i/ with Gothenburg.

Outside of Gothenburg, it may still have the potential to index ‘Gothenburger’ or even ‘rich Gothenburger’, but at least in Skärhamn this is not the case. The damped /i/ has been part of the traditional dialect in Skärhamn and has not indexed social class, but localness and place. As the Gothenburg variety has spread to Skärhamn, the indexicality could be undergoing change, but seemingly not towards indexing urbanity (or at least not to any great extent – only one young informant associates damped /i/ with Stockholm and urbanity). Instead, the damped /i/ seems to have received an even more prominent position in Skärhamn, marking belongingness (the sense that you are an important part of something) and local authenticity (Baumeister and Leary 1995; Prins 2006; Nilsson and Nylund Skog 2019).

It should be pointed out that since the Gothenburg variety is spreading to Skärhamn, Skärhamners most likely are more aware of and orient to the Gothenburg variety than the Gothenburg informants orient towards Skärhamn. Still, many Gothenburgers point out in the attitude interviews that they associate the damped /i/ with the rural area where Skärhamn is situated, rather than with Gothenburg and their own speech. It is possible that when people outside of a community repeatedly talk about a certain linguistic feature as typical of that place, it can become a resource for speakers of that community to express local identity (see also Nilsson and Nylund Skog 2019). If Gothenburgers have strong associations between damped /i/ and Skärhamn, and are in such regular and close contact with Skärhamn residents (Svahn and Nilsson 2014), this could be one possible reason for Skärhamn residents to redefine the local damped /i/ to also index local authenticity.

7. Conclusion

To conclude, we believe that any of the three methods used for this study could not alone give us the same understanding of how informants overtly and covertly perceive the damped /i/. Together, the three methods production test, IAT and attitude interviews give a picture of a complex connection between using a feature, being aware of its use and what it indexes.
Based on our data set of 43 informants it seems that the social meaning of damped /i/ might be undergoing change in both Gothenburg and Skärhamn, but in different ways. In Gothenburg, it is losing its potential to index a certain category of speakers for younger generations, but older Gothenburgers still make associations with class in Gothenburg and to place and authenticity when the damped /i/ is used in rural Skärhamn. In Skärhamn, it seems to have gained an even stronger potential to index local authenticity, but at the same time, our study suggests that younger generations do not perceive the feature to have very clear connotations of rurality, and might in the future associate the damped /i/ with urbanity.

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References


Diminutives and their variation in spoken interaction in urban areas
The Austrian case

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In order to understand the linguistic dynamics within urban language use, all linguistic levels have to be considered in empirical analyses. This paper addresses the morphological level, analysing the use of diminutives in Vienna and Graz and their surroundings. In Austria, diminutives cover a wide range of suffixes, where certain forms correlate with different degrees of formality and can tendentially be linked to diverging levels on the scale between dialect and standard. By analysing data from two corpora, the paper investigates tendencies of dialect levelling and potential differences between the two urban areas. The results point to the significance not only of the examined parameter place of residence, but also of age and gender when it comes to identifying motors of linguistic change and dialect levelling.

Keywords: diminutives, dialect levelling, variation and language change, age, gender, place of residence, dialect and standard

1. Introduction

This paper focuses on the distribution of different diminutive variants in and around the two largest cities in Austria – Vienna and Graz – by applying quantitative analyses of spoken language data. Despite a number of studies that deal with diminutives from a more theoretical perspective (e.g. Dressler and Merlini Barbaresi 1994) or investigate their use in written corpora (Schwaiger et al. 2019), corpus-based studies on the variation of diminutive suffixes in spoken interaction are lacking for Austria, particularly with respect to the application of empirical

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sociolinguistic methods. In light of the various diminutive suffixes available to speakers, ranging from dialectal to standard forms, their investigation can offer significant insights into the dynamics of spoken language use and the interplay between dialect and standard German, which becomes most apparent in urban areas that are prone to processes of linguistic change. This article aims at tracing such processes from a diatopic as well as diastratic perspective, by empirically assessing the impact of socio-demographic factors on the choice of diminutive variants and, by doing so, allowing for a better understanding of the complex linguistic diversity of language use in urban centres. With regard to the selection of specific diminutive suffixes, the quantitative analyses carried out in this study provide a basis for further qualitative evaluations that assess the impetus for their usage in free variation against the background of motivational elements such as prestige (Trudgill 1972) and indexicality (Eckert 2008; Johnstone, Andrus and Danielson 2006).

The following chapters present the language situation in Austria and the phenomenon of diminutives from a theoretical point of view (2), followed by a deduction of the research questions (3) and an outline of the methodology (4), which covers descriptions of the corpora used for this study, of the analytical procedure as well as the informants. Subsequently, the results of the empirical analysis are presented (5) and evaluated in a recapitulating conclusion (6).

2. Linguistic situation

In Austria, the linguistic situation is characterised by several different varieties and speech levels (Schmidt and Herrgen 2011: 51–52; Bülow, Fischer and Herbert 2019) that are shaped by a “complex network of divided linguistic bases of knowledge” (Bülow and Kleene 2019: 65). Wiesinger (2014: 76–84) assumes four distinct levels of speech: Basisdialekt ‘base dialect’, Verkehrsdialekt ‘common dialect’, (regionale) Umgangssprache ‘colloquial language’ and Standardsprache ‘standard language’. Even though these levels cannot be understood as having clear-cut borders, diminutive variants can usually be assigned to one of the two poles on the

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1. One exception is the publication by Katharina Korecky-Kröll (accepted), which is also based on empirical data and follows a sociolinguistic approach. We want to thank Katharina Korecky-Kröll for several insights she shared as well as for her vital support concerning the multivariate analyses, which she also applies to gain very interesting insights on adjective gradation in Korecky-Kröll 2020.

2. This is to be seen in regard to the greater language system. There is no semantic or functional difference in the choice of a variant. Hence, social factors can have an influential effect on said choice (see also Section 3).
dialect-standard-axis, which in turn allows for the traditional subdivision into (rather) dialectal vs. (rather) standard language forms.

All varieties spoken in Austria can be subsumed under the dialect group of Upper German, which covers the southern part of the German speaking area in Europe. Focusing on Austria, the two major Upper German dialects are Alemannic and Bavarian; while Alemannic is spoken in Vorarlberg, the most western province of Austria, as well as in parts of Tyrol, Bavarian covers all other regions (Ammon, Bickel and Lenz 2016: XLVI; Glauninger 2010: 183;).

Figure 1. Dialect zones in Austria (CC-BY-SA M. Seltmann, dioe.at | regionalsprache.de)

In view of the dialect map shown in Figure 1, Bavarian, which is generally divided into a Northern, a Central and a Southern variety (see also Zehetner 1985), is spoken in both areas of research interest: Vienna belongs to the Central Bavarian zone and Graz to a transition zone located between Central and Southern Bavarian. Both in rural and in urban areas, dialect still holds a high communicative standing within speech communities, as it is frequently and consequently used in various everyday interaction situations (Ziegler 2018: 53). This observation is reinforced by results of studies carried out by Steinegger (1998) as well as Ender and Kaiser (2009), in which the vast majority of German-speaking Austrians declared that they had an active dialect competence.

Aside from the importance ascribed to dialect in Austria, there is another aspect that seems to be dominating both public as well as scientific discourse on factors influencing language use: the rise and spread of urban centres. In this process, several of them could evolve into “dominant centre[s]” that have a lasting influence on their surrounding areas in form of a wave-like diffusion of language features (Kerswill 2003: 223; see also Britain 2002). Particularly in eastern Austria, the cities

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3. There is also a very small area of the Swabian dialect zone in the north-western part of Tyrol.
Vienna and Graz can be viewed as having innovating force regarding linguistic change, as current research (Glauninger 2010: 182–183) points towards a growing urban-rural distinction with respect to the so-called dialect-standard-continuum: In contrast to the socio-economic context of rural areas, the multidimensional linguistic space of larger agglomeration areas has led to dialectal features becoming marked and, subsequently, being used less frequently in everyday interaction.

Such reduction processes of marked variants can be described by the term dialect levelling (e.g. Kerswill 2003; Hinskens 1998; Trudgill 1986: 98), and have extensively been described for British English (e.g. Cheshire, Kerswill and Williams 2005; Kerswill 2003) as well as for different international linguistic contexts in urban areas in general (e.g. Otheguy and Zentella 2012; Anderson 2002; Trudgill et al. 2000; Hinskens 1996; Mesthrie 1993; Kristensen and Thelander 1984). These levelling processes not only change the image of spoken varieties in urban centres, but are also linked to the diffusion of new forms from urban centres into other areas: “Diffusion patterns are […] mediated through a system of urban centres […] in any given area, ‘where diffusion is primarily dependent on individuals in one central place communicating with those in another’” (Trudgill 1974: 223–224). In this sense, diffusion describes the process of long-term accommodation of speakers in rural communities located close to cities. The interchanging contact between rural and urban areas through pulling factors of the cities and the shift of living spaces to the hinterland due to migration and mobility bring forth linguistic change that is grounded in urbanisation (see also Vandekerckhove 2010).

Moreover, in the process of breaking new linguistic ground, the youngest generations in urban communities have been described as the driving force behind language change (Tagliamonte 2016; Rampton 2015). Thus, the importance of these age groups must be stressed when analysing language (usage) change in cities. Urbanisation can, consequently, not only be described as a social or geographical phenomenon, but also as a linguistic one.

3. Diminutive suffixes and research questions

First and foremost, it must be stressed that – in contrast to areas in Northern Germany – diminutives are generally used more frequently in the Bavarian and Alemannic dialect zones (Dressler and Merlini Barbaresi 1994: 103; Schmid 2012), which is why they are often perceived as typical ‘Southern’ features. Focusing on Austria, the concrete diminutive suffix forms that become apparent in everyday communication differ significantly from each other with regard to their status in the standard language.
The two variants labelled as dominant in German in Austria are the diminutive suffixes -chen and -erl (Dressler and Merolini Barbaresi 1994: 103; Schwaiger et al. 2019: 147), at least with respect to the written language. While -chen is generally documented as a standard German variant across all German speaking areas, -erl is considered to be a Bavarian variant and is perceived as a typical Austrian colloquial, or rather dialectal, form (Dressler and Merolini Barbaresi 1994: 103; Glauninger 2005). One of the possible reasons for the ascription of the suffix -erl to Austria is that various widely used nouns ending with -erl are categorised as standard language forms for German in Austria (Ebner 2009: 465), such as Zuckerl (‘candy’), Sackerl (‘bag’) or Schwammerl (‘mushroom’). However, all of these seemingly formal diminutives are in fact lexicalised, i.e. they exist exclusively with these lexemes, and are also cases of formal isomorphism, where the former suffix -erl has no independent grammatical function and thus no diminutive function anymore. Consequently, even though -erl is still a productive diminutive suffix, in such cases the suffixes do not represent active diminutivisation.

Apart from -chen, which Schmid (2012: 188–189) classifies as a marginal phenomenon for the Bavarian dialect area, the only other suffix considered to be a standard diminutive form is -lein, which has been described as a regional variant used mostly in the south of the German speaking area (Dressler and Merolini Barbaresi 1994: 103). Again, this has to be understood in terms of written standard German as little is known about diminutives in everyday spoken language. Other colloquial diminutive variants that can be found in Austria may vary and include, among others, the forms -l (with -el, -ele and -le as variants), -i (with -li and -tschi as variants) as well as variants of -erl like -tscherl, -al, -erle (Dressler and Merolini Barbaresi 1994).

According to Dressler (1994: 138), the suffixes -i, -li, and -tschi are largely limited to the use in child-centred speech, as in Papi, Papili, or Papatschi (‘daddy’). This claim can be disputed for various reasons, e.g. the use of -li in alteration to -le in Western Austria or the actual usage of -tschi. Additionally, the suffix -i is used in nicknames, which is a common phenomenon in colloquial language use. In the case of an umlaut-capable stem vowel, all of these suffixes basically can also be encountered in combination with an umlaut (e.g. Hand → Händchen ‘hand’). In their basic semantic meaning, i.e. without being embedded in a specific context, all diminutive suffixes communicate the meaning ‘small’, which is added to the meaning of the respective noun.

It is important to note that, despite the great variety of diminutive suffixes available to speakers of Bavarian dialects, not all of these variants can be used in the same phonetic context. For instance, according to Seebold (1983: 1251), a plosive such as /d/ or /p/ is added to the diminutive suffixes for stem forms that end on a
nasal such as *Schwein-d-l/Schwein-d-erl* ‘little pig’ or *Man-d-l/Man-d-erl* ‘little man’. The addition of a plosive to a stem ending on a nasal, however, serves exclusively to facilitate articulation – the plosive has no semantic, i.e. grammatically functional, significance of its own. The noun *Katze* (‘cat’) is another example. It can take on all suffixes, apart from -*tschi*, which is phonetically restricted: *Katzerl, Kätzchen, Kätzlein, Katzi, Katzl*, and *Kätzli*. Such cases illustrate how the morphological paradigm of diminutive suffixes is used in free, i.e. linguistically unconditioned, variation without any semantic distinction on the systemic language level. Given the absence of systemic restrictions in the selection of variants, this finally raises the question of the motivation behind the selection: What determines the choice of different diminutive suffixes?

In line with current studies (Kleene 2017; Oberdorfer and Weiß 2018), it can be assumed that dialect levelling in Austria becomes most apparent in youth communication in areas with a high degree of urbanity. In this respect, the factors *place of residence* as well as *age* seem to be relevant for these processes. Finally, research on sociolinguistic variation has pointed to gender differences, which allows us to expect certain discrepancies, particularly in combination with the factor *age* (e.g. Tagliamonte 2016; Eckert 1996).

Therefore, the two main research questions in our study are:

1. Do patterns of diminutive use in the investigated cities differ from what can be expected in the Bavarian dialect area, and to what extent do the factors *urbanity* and *place of residence* (Vienna or Graz) influence language change in terms of levelling processes?
2. In the context of urban language use as well as variation of diminutive forms, can the socio-demographic variables *age* and *gender* be identified as relevant factors when it comes to the choice of variants?

### 4. Methodology

Using two corpora – the *Urban Language in Austria* corpus (ULA-corpus)\(^4\) and the complementary *Youth Language in Austria* corpus (YLA-corpus)\(^5\) (see Section 4.1) – we aim at examining the influence of predetermined variables on the choice of diminutive suffixes in spoken interaction. The focus is put on the classic socio-demographic factors *place of residence, age* and *gender*. The YLA-corpus is used especially for in-depth analyses of the factor *age* (cf. Section 5.4).

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\(^4\) The corpus is based on data of the project *Vienna and Graz – Cities and their influential force*.

\(^5\) The YLA-corpus was set up in the course of the project *Youth Language(s) in Austria*. 
4.1 Corpora and analytical procedure

Since the 1980s, numerous publications have focused on the linguistic situation in Austria, however, the focus has predominantly been put on phonetic and lexical phenomena (e.g. Reiffenstein 1982; Wiesinger 2014; Ammon, Bickel and Lenz 2016). With regard to the variety and change of contemporary spoken German, large-scale comprehensive studies are still lacking for Austria.6

While the ULA-corpus consists of data collected from 2016–2018 in the cities of Vienna and Graz, as well as in three neighbouring communities of each city, the complementing YLA-corpus consists of data that was collected in the nine provincial capitals of Austria in the years 2013 to 2015, all of which can be considered urban areas.7 The spoken linguistic data of both corpora were transcribed using EXMARaLDA,8 in accordance with the GAT 2 (Selting et al. 2011) transcription standards. Afterwards, the data was annotated, allowing for extensive grammatical analyses.

4.2 Informants

The ULA-corpus consists of data from a total of 62 informants from the cities of Vienna and Graz, and three neighbouring communities respectively. The central criteria for the choice of informants were the informants’ permanent primary residence and native language, which had to be German; further criteria were based on the extra-linguistic factors place of residence, age and gender. The survey was designed to include two age cohorts of adult speakers: 20- to 30-year-olds and people over the age of 65. Within the additional YLA-corpus, the main age group of adolescents (12- to 19-year-olds) is contrasted with middle-aged adults (aged between 40 and 60). By including data from the YLA-corpus in our analyses, we are able to compare four age groups in total (Table 1).

6. With respect to written language, an international project (http://mediawiki.ids-mannheim.de/VarGrat/) was launched in 2011 that aimed at identifying grammatical variation of written Standard German in all countries of the interconnected German speaking area in Europe and at documenting these national and regional variants in an online reference work (Variantengrammatik 2018).

7. The degree of urbanity of each of these cities has to be understood in relation to their specific demographic situation, as cities get smaller and less urban the farther west you look in Austria.

8. EXMARaLDA is an open source software bundle for transcribing, annotating and analysing spoken data. See https://exmaralda.org/de/ (26 May, 2020).
Table 1. Informants by corpus, age and gender

<table>
<thead>
<tr>
<th>Informants in total</th>
<th>ULA-corpus</th>
<th>YLA-corpus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Age-group I (12–19)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Age-group II (20–30)</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Age-group III (40–60)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Age-group IV (&gt; 65)</td>
<td>19</td>
<td>22</td>
</tr>
</tbody>
</table>

5. Results

As described in Section 3, some diminutives have lost their diminutive meaning and have partly become lexicalised, while other lexemes can take on a wide range of both standard and dialectal suffixes, offering a high potential of variation. In addition to the examples shown below ((1), (2) and (3)), the noun Stück 'bit', for instance, can also be formed with -li or -lein depending on the preferences of individual speakers.

(1) Stückerl, ULA-corpus, 4019_THAL_AI, Seg. 117.9

=*do a stückerl weiter durt IS die hoitestö;
='a bit further away IS the bus stop;"

9. Information on GAT 2 and additional transcription conventions:

*Pausing*:

(-) short estimated pause of approximately 0.2–0.5 sec duration

*Accentuation*:

SYLLable focus accent

*Pitch movements at the end of intonation phrases*:

, rising

; falling

*Other conventions*:

[] Placeholder
Such variation found in our corpora begs the question: To what extent can differences in use be traced back to the three socio-demographic aspects of interest – place of residence, gender and age?

5.1 Multivariate analyses of individual diminutive suffixes

To start out, our analysis will focus on the best-fit regression models for each of the central diminutive suffixes -chen, -l, -i and -erl in regard to the fixed variables place of residence, gender and age. These analyses were carried out in R, a free software for statistical analysis.

To start with -chen, the standard suffix in this group of four, it becomes apparent when looking at the possible predictions that the best model is an interaction of age with gender (AIC = 207.696, R² = 0.1268, p = 0.0474), showing a significant influence of age (β = 1.1636, SE = 0.4699, t = 2.476, p = 0.0162) and also a trend with respect to the interaction of age with gender, which is just above the necessary significance value (β = −1.2880, SE = 0.6624, t = −1.945, p = 0.0567), while the model with all three fixed variables without interaction shows no particular significance (AIC = 210.0429, p = 0.0967). Hence, in regard to the use of -chen, young people use it significantly more often than older speakers and there is a trend for young women to use slightly more -chen diminutives than their male counterparts (Figure 2).

10. In fact, the socio-demographic aspect place of residence covers four parameters, namely urbanity vs. rurality and the dialect regions East-Central Bavarian and South/Central Bavarian represented by the cities of Vienna and Graz and their respective surroundings.

11. As the diminutive suffixes -li and -lein seem to be unproductive in the analysed data, they were excluded.

Predicted values of DIM.chen

Following -chen, the best regression model to be found for -l diminutives is an interaction of age with place (AIC = 326.1733, $R^2 = 0.1484$, $p = 0.0245$) – with a model of age as a single fixed effect being slightly less ideal (AIC = 328.0099, $R^2 = 0.0643$, $p = 0.0467$) and other possible regression models showing no significant effect. This demonstrates that young people use less -l diminutives to a significant degree ($\beta = -3.7521$, $SE = 1.3891$, $t = -2.701$, $p = 0.009$) and urban areas show less use of -l in contrast to rural areas ($\beta = -2.5577$, $SE = 1.0751$, $t = -2.379$, $p = 0.0207$). Thereby, the rural/urban difference is much more pronounced in the old age group in comparison to the younger one. This is illustrated in Figure 3:

![Graph showing predicted values of DIM.chen with interaction of age with gender and gender categories.

Figure 2. -chen usage in regard to interaction of age with gender.
Moving on to -i, while age and dialectal area (Vienna/Graz) in interaction with place (urban/rural) show a very well-formed model (AIC = 174.068, $R^2 = 0.2341$, $p = 0.0038$), the best fit is found in the interaction of dialectal area and place, essentially showing the difference between the greater areas of the two cities in question, Graz and Vienna (AIC = 172.8427, $R^2 = 0.2244$, $p = 0.0019$). There is significant less use of -i diminutives in the south/central Bavarian transition zone ($\beta = -1.8125$, $SE = 0.4453$, $t = -4.070$, $p = 0.0001$), while the rural area of the middle Bavarian dialectal zone shows more -i usage to a significant degree ($\beta = -3.7521$, $SE = 1.3891$, $t = -2.701$, $p = 0.0011$) (Figure 4).
Finally, -erl diminutives are significantly influenced by the variable age, making the fixed variable the best regression model for -erl usage (AIC = 285.6957, $R^2 = 0.0897$, $p = 0.01799$). The model shows that young people in the data tend to use less -erl diminutives to a significant degree ($\beta = -1.5319$, $SE = 0.6298$, $t = -2.433$, $p = 0.018$). While place, dialect region and gender as single variables do not amount to significant effects regarding -erl, the interaction of place and gender, even though it is not an ideal model, shows a trend with regard to the two parameters (AIC = 291.9687, $R^2 = 0.05578$, $p = 0.3397$). In Figure 5 we can observe that rural females and urban males use less -erl diminutives.

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13. In Figure 4, cBav stands for East-Central Bavarian, scBav for South/Central Bavarian.

14. Because a model with only one fixed variable does not provide a good visual illustration, a figure for age has been omitted.
Predicted values of DIM.eral

Figure 5. -eral usage in regard to interaction of gender and place

Overall, it becomes apparent that age tends to be a significant factor concerning the differences of diminutive uses, making it the most important variable for every diminutive suffix (albeit the best model for -i is a diatopic influence on usage). Focussing on the younger generation, it is them who show clear usage differences regarding standard or more dialectal use in their choice of diminutives. Compared to the older generation, they are more oriented towards the standard form by using significantly more -chen and also less dialectal variants.

The following sections will discuss these tendencies in depth with regard to the overall use of the respective diminutives analysed above from a diatopic and a diastatic view. Bearing in mind the significant statistical distributions of the individual diminutive suffixes in 5.1, what follows is the scrutiny of the in-group distribution of the respective diminutive variants – where appropriate and useful. This follows from the fact that each significant trend in the choice of a variant ultimately reveals the preference for that variant as well as tendencies of disregard for the others.
5.2 Diatopic view: Vienna and Graz and their surroundings

Following the multivariate analyses, the first aspect of the in-group investigation concerns differences in use between the two urban research areas and their rather rural surrounding communities in order to examine how the statistically significant distribution of -l and -i (cf. Section 5.1) matches the observed frequencies regarding place of residence.

As most of the diminutive suffixes available to speakers in eastern Austria are considered to be dialectal Bavarian variants, they are marked as nonstandard forms (Dressler/Merlini Barbaresi 1994: 103). Thus, a comparison of usage frequencies between the cities of Vienna and Graz and their respective agglomeration areas needs to take the strong influence of dialectal features into consideration, as everyday language use is dominated by the typical Bavarian diminutives rather than prescriptive standardised forms. This can be seen by the distribution of the frequencies of the diminutives -l and -i at least in part, as described below.

From the multivariate analysis in Section 5.1 we know that especially the young participants use -l in rural areas, while in urban areas this significant effect is at a comparatively low level. The same applies to the use of -i, which is also significantly more pronounced in rural areas. This applies in particular to the East-Central-Bavarian area (Vienna area), whereas it is at a lower level in the South/Central-Bavarian area (Graz area). A look at the following distribution of the frequencies of the two diminutive variants on the variables urban/rural and the respective dialect region, however, only partially confirms these significant results.

For the diminutive suffix -l – measured against the share of all relevant suffixes (N = 487) – a ratio of 54.62% is recorded in the urban area in Graz, while a rate of 72.19% is observed in its surrounding areas. This corresponds with the results from Section 5.1. However, these findings are not confirmed for the Viennese area, where the rate of 65.89% (N = 302) is even higher than that of the surrounding areas (N = 156) with 62.82%. The situation is similar regarding the diminutive suffix -i, which dominates in the urban area of Graz compared to the surrounding areas, while in the Viennese area it behaves according to the results from the multivariate analysis.

5.3 Diastratic view: Distribution by gender

Differences between men and women in diminutive use have long been part of the general question concerning gender-specific language usage, and it has been said anecdotally that women use diminutives on a more frequent basis (Jurafsky 1996: 545). This assumption has also been taken up in certain works of gender linguistics. Sally McConnell-Ginet (2003: 86–87) illustrates – in the process of
discussing the labelling of men and women in society – how women state to use diminutives significantly more often than men do. However, the results of our study do not lead to such conclusions, as no significant differences in frequency were detected, albeit the distribution of -chen turns out significant for the combination of gender with age.

In our data, female speakers make use of more standard -chen diminutives (28.8% vs. 25.8% measured in both age-groups) and -i suffixes (38.8% vs. 21.8%), while male speakers use more dialectal forms with one exception regarding the -erl diminutive in urban areas, which is used more often by female participants. This, in turn, corresponds to the multivariate analyses in Section 5.1. Age, as will be seen in the following section, is also an important factor in this, as the female speakers of both age-groups tend towards more normative diminutive forms, but to a different degree. Looking at their differences, a more dialectal orientation in the use of diminutives becomes apparent in the speech of the older female speakers. With regard to the male speakers and their tendencies towards more dialectal forms, contrasting the two gender-groups against each other confirms the traditional sociolinguistic assumption that women orientate more strongly towards the use of standard variants (Trudgill 1972). Taking into account the results of the multivariate analysis, we know that at least with regard to the form -erl this is true for rural areas, while in urban areas the picture becomes more complex with an additional trend towards -erl in female language use.

Due to the fact that the analysed data of recorded women displays a comparatively high frequency of nicknames and of the word bissl ‘a bit’, the percentages of standard forms do not differ greatly between the two genders. Yet if we exclude these two factors, the diminutive suffix -chen occurs twice as often among the female speakers as among male speakers (20.4% vs. 9.3%).

5.4 Diastratic view: Distribution by age

Within both gender groups divided by age, there is a definite tendency in frequency (cf. Table 2) towards standard -chen constructions among young female and male speakers (although a significant influence of age could only be shown for female speakers in 5.1), demonstrating the relevance of the factor age when it comes to the choice of variants along the dialect-standard-axis. This also became apparent in the multivariate analyses, where age was the most important fixed variable, showing more -chen uses and less use of dialectal forms in the speech of younger people which ultimately corresponded to the significant effect in regard to the use

15. For bissl this naturally means excluding all variants of the lexical item.
of -l and -erl diminutives (as the more traditional/most dialectal variants). In view of the overall relation, the forms -erl and -chen can be understood as poles of the dialect-standard-continuum (highlighted in Table 2):

Table 2. Diminutive use of old and young speakers in the ULA-corpus

<table>
<thead>
<tr>
<th>Age</th>
<th>-erl</th>
<th>-l</th>
<th>-i</th>
<th>-chen</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 65</td>
<td>120</td>
<td>551</td>
<td>51</td>
<td>56</td>
<td>778</td>
</tr>
<tr>
<td></td>
<td>(15.42%)</td>
<td>(70.82%)</td>
<td>(6.56%)</td>
<td>(7.20%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>20–30</td>
<td>19</td>
<td>282</td>
<td>134</td>
<td>106</td>
<td>541</td>
</tr>
<tr>
<td></td>
<td>(3.51%)</td>
<td>(52.13%)</td>
<td>(24.77%)</td>
<td>(19.59%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Total</td>
<td>139</td>
<td>833</td>
<td>185</td>
<td>162</td>
<td>1319</td>
</tr>
</tbody>
</table>

At first glance, Table 2 illustrates nearly reversed usage frequencies of -erl and -chen diminutives between old and young speakers. These absolute numbers must, however, be considered in the context of their respective age groups, since different usage numbers in unsorted data hardly allow any conclusions. If we look at the relative proportion of diminutives in the respective age groups, 15.4% of the -erl constructions in the group of older speakers contrast with 3.5% in the younger group. This alone points to a slight deviation from the supposedly prevalent dialectal variant, which is emphasised above all in the linguistic literary tradition concerning German diminutive forms. Further analyses of -chen constructions paint a similar picture, highlighting older people’s loyalty towards dialect use and the rising standard orientation among the younger participants. Among the young adults, 19.6% of diminutives are formed with the suffix -chen; the older generation, on the other hand, only makes use of this variant in 7.2% of the cases. The slight tendency towards more standard diminutive forms in the age group of 20- to 30-year-olds is clearly illustrated in this comparison and following the analyses of 5.1 is driven in particular by female speakers.

Complementing our main corpus, the data from the YLA-corpus fits the picture of an age-preferential use of diminutives. The four age groups arising from the combination of both corpora are adolescents (12–19), young adults (20–30), adults (40–60) and senior citizens (> 65) (cf. Section 4.2). Taking into account the data of the YLA-corpus, the distribution of the diminutive form -chen (Table 6) remains statistically significant for a function with the fixed variables age, gender, place and dialectal area (AIC = 565.3397, $R^2 = 0.1369$, p-value = 0.0019). A comparison between these age groups regarding the use of -chen diminutives reveals that the younger the participants are, the more standard forms are used:
As is illustrated for -*chen* in Figure 6, there is a clear preference of standardised forms among adolescents in the cities of Vienna and Graz that is greater than the one among the young adults and senior citizens. Accordingly, the stronger orientation towards the standard in the urban areas of Eastern Austria is reflected above all by the younger generations’ choice of variants. In the present case, the comprehensive visualisation of this change (Figure 6) shows the decline of the relative numbers with an increase in age. The analysis of the four groups indicates a generational change, in which the proportion of standard -*chen* constructions compared to all variants used rises from 7.1% for senior citizens to a third (33.1%) for the youngest generation. Taking into account the results of the multivariate analyses in Section 5.1, we can assume that the distribution shown in Figure 6 is primarily motivated by female rather than male speakers. It should be noted that this linear progression is foremost an illustration of language change based on an apparent time comparison, however, our analyses across the four age groups indicate that the orientation towards the standard is not likely to be simply a “linguistic trend” among adolescents (Oberdorfer and Weiß 2016) because the frequencies among the group of young adults are too high to allow such an interpretation.

16. The relative usage refers to -*chen* constructions in proportion to the total occurrences of diminutives per individual group.
6. Conclusions

Based on the above analyses, we have shown that diminutive markers are a relevant sociolinguistic variable for the urban space in Austria. Significant differences were found regarding their distribution by gender, age group, and concrete place of residence. In summary, our findings lead to the conclusions discussed below. In general, it must be stated that the multivariate analysis could not fully answer the research questions asked at the beginning. This applies in particular to research question 1, as only various tendencies related to individual variables and different diminutive variants with regard to the factors urbanity and place of residence could be identified. Therefore, no concise conclusion could be drawn from this with respect to relevant influencing variables. Nevertheless, the trends found at least allow for an interpretation of the results regarding the research question and can provide a basis for further analysis.

In contrast, a much clearer picture emerges for research question 2. Here, the multivariate analysis show that with regard to different diminutive variants the factors age and gender are significantly influential.

With respect to the differing frequencies of diminutive variants, the data categorised by age ultimately uncover differences that support assumptions concerning dialect constancy as well as dialect loss. It is, therefore, not surprising that age also tends to be the single most important factor in multivariate analyses of individual diminutive suffixes. The generation of adolescents represents a motor of change; in our case it is their linguistic potential that allows for them to be labelled as a “driving force behind language change” (Tagliamonte 2016: 43). The group of young adults aged 20 to 30 is often underrepresented, not investigated at all, or used as a buffer between the youth and the adult generation.17

Finally, regarding the use of diminutives, the parameter gender could also be identified as a significant factor, albeit primarily with respect to standard language and particular preferences of young women, less in terms of the diminutive being a preferred element among women’s speech in general. When looking at the standard language diminutive suffix -chen, this became apparent in the multivariate analyses, where said suffix turned out to be distributed significantly in regard to the combination of age with gender. As Labov (2001) states in his principles of linguistic change, women are the leading group when it comes to the use of a trending linguistic form, or at least to one regarded as trendy (Tagliamonte 2016: 54). So, even at this point our results are completely in line with Tagliamonte’s assumption that “[…]

17. Young adults are associated with the phase of post-adolescence that is often defined in opposition to adolescence as well as adult life (Bahlo and Krain 2018; Keniston 1968). A converse perspective would assume post-adolescence rather as both, and could, therefore, bridge the gap in order to detect language (usage) changes and to distinguish them from linguistic trends.
girls are far more likely to use new features of language than boys are, which means that girls are the primary transmitters of new usages” (ibid.: 43). In urban Austria (Vienna and Graz and their respective surroundings), especially younger female speakers use the standard diminutive form. Compared to the male participants of the same age group, as well as the older age groups of our study, this usage can be labelled as innovative.

The noticeable tendency towards the standard form in the younger generations indicates both an expectable and an unpredictable development simultaneously: Measured against previous dialect-levelling observations in urban centres around the world, the occurrence of more standard variants is not particularly surprising, but it is remarkable for Austria, where (regional-)dialectal language use is most common. This observation does not imply that dialects are vanishing, however, but that they are seamlessly shifting towards the standard pole of the standard-dialect-continuum in urban communication (Ammon, Bickel and Lenz 2016: XLV–XLVI; Löffler 2010: 23, 74, 141; Soukup 2009: 35). Also, given the idea of a vertical axis in the language space depicting a dialectal basepoint and a standard language endpoint as well as a horizontal axis containing different varieties of the same level, the status of dialect as an identity marker implies much more horizontal than vertical change in language use. Therefore, one would expect younger generations to differ from older generation in terms of dialect usage rather than standard language use. Then, identity constructions are achieved by the (recurring) in-group use of preferred diminutive variants in social networks (Milroy 1987; Eckert 2008), potentially giving them social meaning through the process of indexing (Johnstone 2010: 31–32).

In addition, standard-language variants used in different contexts of conversation are not considered to be particularly motivated in Austria, where dialectal or regional language use is favoured. However, the focus here is not necessarily on a ‘prestigious standard-language variant’, but on a variant within the paradigm that is selected and used in contrast to the older generation. Measured against de- and restandardisation tendencies (Ziegler 2018: 58–59), a possible variant can also replace a previously regional prestigious one, as long as the regional language includes such prestigious variants. Furthermore, for the -erl diminutives, a certain degree of prestige – in the sense of a regional-language localisation – can be determined, which applies to Austria as well as to the entire Bavarian language area. Consequently, de- and restandardisation tendencies would indicate a process that chooses a new variant out of the diminutive-paradigm in order to refresh it. There is still incentive to choose, but prestige in a classical sense would be less of a motivator. Thus, the use of diminutive variants remains an important phenomenon for future analyses of urban language use, in particular from a more qualitative perspective that takes into account the speakers’ intra-individual variation in different communication situations.
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References


Trudgill, Peter. 1972. Sex, covert prestige and linguistic change in the urban British English of Norwich. *Language in Society* 1(2). 179–195. [https://doi.org/10.1017/S0047404500000488](https://doi.org/10.1017/S0047404500000488)


Variantengrammatik = *Variantengrammatik des Standarddeutschen*. 2018. [Regional variation in the grammar of Standard German]. An open access online reference work compiled by a team under the leadership of Christa Dürscheid, Stephan Elspaß and Arne Ziegler. [http://mediawiki.ids-mannheim.de/VarGra](http://mediawiki.ids-mannheim.de/VarGra). (18 February, 2020.)


Areal microvariation in German-speaking urban areas (Ruhr Area, Berlin, and Vienna)

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This chapter focuses on spatial and social variation in the colloquial everyday speech of three German-speaking urban areas. The basic question is whether geographical variation (the kind that is commonly observed in studies on dialect variation in large areas) is detectable in the reported everyday speech of the spatially much smaller, yet denser urban areas as well. To this end, we use methods of quantitative dialectology to examine the patterns of variation in the Ruhr Area, Berlin, and Vienna. The respective analyses of the spatial patterns of 245 linguistic variables from a total number of 4,251 informants yield clear – but remarkably distinct – patterns of areal variation for each of these three urban areas. To account for those differences, social variables are factored in.

Keywords: language variation, urban language, quantitative dialectology, sociolinguistics, colloquial German

1. Introduction

While many studies on areal variation focus on large regions or entire countries, research on areal variation on a geographically smaller scale is rare. This may be due to the assumption in the linguistic tradition that urban space may be defined more adequately as a social rather than a geographic entity. In dialectological studies, for instance, cities and towns have mainly been viewed as centres of diffusion of linguistic innovations (e.g. in the gravity model, cf. Chambers and Trudgill 1998: 178–185). In principle, however, it seems plausible that urban space itself also has an areal dimension.

This assumption is worth looking at from a variationist perspective. In this explorative study, we investigate small-scale spatial variation in German-speaking urban areas. By applying quantitative methods to fine-grained data from surveys on reported colloquial German, we examine such small-scale spatial variation in...
three densely populated urban areas in the German-speaking countries – the Ruhr Area and Berlin in Germany as well as Vienna in Austria. Based on the empirical results of our study, we will discuss a central issue that arises from adopting an areal-linguistic perspective of variation in the city: Do these findings point to the existence of geographically conditioned variation in urban spaces, or are these spatial structures in the linguistic variation of cities symptoms of another underlying type of (social) variation?

2. Aims of the study

This chapter investigates variation of everyday language data in urban settings from an areal-linguistic point of view. It has three main objectives, all of which are interconnected: The first one is of a primarily documentary nature, as we concentrate on portraying and analysing variation patterns of three distinct German-speaking urban areas (the Ruhr Area, Berlin and Vienna). This leads to the second objective: Can variation in the reported everyday language use in urban spaces be traced back to areal patterns, i.e., does urban variation reflect patterns known from traditional dialectology? The third objective of this chapter is to find out whether there is a lower limit to the detection of areal variation in terms of geographical scale: Small-scale dialectometrical studies (< 50 km) are rare, and the few studies in this field (see especially Stanford 2012) have mostly been limited to cases of base-dialectal variation and/or geographic obstacles (e.g. Jeszenszky et al. 2017), where substantial systemic differences were to be expected.

Thus, the study is both interested in how narrow the geographical scope can get and whether urban everyday language carries enough variation to exhibit a signal strong enough for quantitative variationist research.

3. Data, areas and methods

3.1 Atlas zur deutschen Alltagssprache (AdA)

The data for our study come from the Atlas zur deutschen Alltagssprache (AdA) (‘Atlas of colloquial German’) (Elspaß and Möller 2003ff.; cf. Elspaß 2007; Möller and Elspaß 2014, 2015). The AdA is a linguistic atlas based on internet surveys of contemporary colloquial German, particularly as spoken by the younger urban generation. It was originally targeted at almost 500 cities and towns in the German-speaking countries and regions (Germany, Austria, Switzerland,
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Liechtenstein, Luxembourg and the German-speaking parts of northern Italy, eastern Belgium and the Alsace and Lorraine regions in eastern France). The data were obtained through internet questionnaires. The participants were requested to name variants in the colloquial speech in their towns and cities, i.e. the kind of speech ‘one would normally hear’ in these places, ‘be it more dialect or more standard German’. It is important to note that the participants act as informants. They are not meant to state what their individual language use is, but what people in their city or town usually say. Due to the diversity of the varietal spectra in the German-speaking countries, including diglossic and diaglossic configurations (cf. Auer 2005), everyday colloquial speech (‘Alltagssprache’) can mean the local dialect (e.g. in German-speaking Switzerland), some kind of intermediate variety (e.g. in many parts of Austria and southern Germany) or a regional form of language close to a standard German variety (particularly in the north of Germany, but also in many of the bigger cities).

So far, twelve surveys have been completed, the results of which amount to some 600 linguistic maps. All maps are available online; the webpage also contains the questionnaire for the current survey. Whereas in the first survey round 1,763 answers were obtained, later survey rounds snowballed to more than 20,000 responses.

The participants were asked (1) to provide local variant(s) in lexis, pronunciation, grammar, and idioms and routine formulae, or (2), in some cases, to state how common/uncommon a certain variant or construction is in their hometown. In the first case (1), the individual tasks typically follow an onomasiological approach – starting from a given concept (presented in a short description and/or in a picture), participants are asked for the expression(s) ‘normally’ used for this concept in their town/city. They can choose from a list of given variants or provide a variant which is not listed. Figure 1 shows two examples from questionnaire no. 12.

1. Data from Alsace and Lorraine have been included beginning in the ninth survey round, which started in 2012.


4. One AdA survey (survey no. 6 from 2006) was aimed at eliciting perceptual data (cf. Möller 2012). The AdA data collection is still ongoing and is presently going into its thirteenth survey round.
1. Wie nennt man bei Ihnen …

(a)... selbstgemachtes Weihnachtsgebäck?

☐ Plätzchen
☐ Plätzle
☐ Keks
☐ Kekserln
☐ Keksian
☐ Brötle (Bretle, …)
☐ Guetsle
☐ Biskuit
☐ Guetzli
☐ Loible
☐ Krapferl
☐ Weihnachtsbäckerei

anders, und zwar: ____________________________

(b)... ein Stück eines Apfels, wie im Bild links?

☐ Apfelschnitz (/Appel-/öpfelschnitz u.ä.)
☐ Apfelspalte (/Appel-/Öpfelspalte u.ä.)

anders, und zwar: ____________________________

**Figure 1.** Examples for tasks from AdA questionnaire no. 12 (variants for (a) ‘cookie’, (b) ‘piece of an apple’)

The resulting maps show either one or two colour-coded dots per location: In the latter case, the bigger dot represents the most frequently reported, i.e. the dominant, variant at the location. A smaller dot next to the big dot indicates, firstly, that there is variation in this location, and, secondly, it symbolizes the second most common variant in this area, cf. Figure 2 (variants for ‘potato’) from survey round 9 (see online map for full colour version).
3.2 German-speaking urban areas (three different ones)

We have chosen three urban areas (see Figure 3) with different sizes and population densities as testing grounds. The following list depicts these areas in decreasing size and increasing density:

- **The Ruhrgebiet (Regionalverband Ruhr, Ruhr Area)** is a metropolitan area in the west of Germany that is economically centred on a formerly thriving coal and steel industry. It is inhabited by approximately 5.1 million people (4,435 km²), population density: 1,646/km².6

- **Berlin** is the capital of present-day Germany, with approximately 3.8 million inhabitants (891 km²), population density: 4,206/km².7

- **Vienna**, the capital of Austria, has approximately 1.9 million inhabitants (415 km²), population density: 4,326/km².8

---

Note that, unlike the two capitals Berlin and Vienna, the Ruhr Area is a polycentric urban area. Although the Ruhr Area consists of administratively independent cities and towns, it is interlinked by continuous urban settlement, which allows for a comparison with Berlin and Vienna. Historically, Berlin and Vienna also developed from formerly independent municipalities which were merged as the two capitals grew in size.

Whereas Vienna has been an urban centre since the Middle Ages, Berlin and the Ruhr Area mainly developed into urban areas during the Industrial Revolution in Germany (18th and 19th centuries).

3.3 Methods

The material we use in this study originates from four AdA questionnaires, survey rounds seven to ten (2009–2013/14). Since the launch of the AdA in 2003, when potential informants in 500 cities and towns of the German-speaking countries were addressed directly by e-mail and pointed to the website of the first survey, the
number of participants had risen to over 5,000 in survey round five. The AdA has a high participant retention rate, as the sending out of a new questionnaire is timed to coincide with the publication of the mapped results of the previous round. Due to the ensuing immense popularity of the AdA and the distribution of its findings in traditional and digital media, the number of participants snowballed to over 20,000 participants in survey round ten. The number of variables in survey round seven to ten amounts to 245 (out of a total of over 600 in the entire AdA).9 Most of these variables are of lexical (cf. Figure 2, other examples include Kissen / Polster ‘pillow’, Rechen / Harke ‘rake’, or g/kuck! / schau! / lueg! ’look!’),10 morphological (e.g. past participle of einschalten ‘to switch on’ – eingeschaltet or eingeschalten),11 morphosyntactic (e.g. auxiliary verb sein or haben in perfect tense forms of posture verbs)12 or phonological nature (e.g. short of long vowel in Spaß ‘fun’).13

The original data from the surveys are organised in tables with nominal-scaled answers from individual participants, i.e. a database containing a row for each participant and a column for every variable asked, with the individual cells containing the respective variants in plain text (cf. Table 1).

Table 1. Original data structure of the AdA

<table>
<thead>
<tr>
<th>informant id</th>
<th>postal code</th>
<th>variable 1</th>
<th>variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>86150</td>
<td>variant a</td>
<td>variant b</td>
</tr>
<tr>
<td>2</td>
<td>86167</td>
<td>variant a</td>
<td>variant a</td>
</tr>
<tr>
<td>3</td>
<td>86167</td>
<td>variant b</td>
<td>variant c</td>
</tr>
</tbody>
</table>

For quantitative analyses, we transformed them to relative frequencies of variants (columns) per location (rows) (cf. Table 2). Thus, the reported local variation is interpreted as usage frequency on site. This differs from most ‘classical’ dialectometrical analyses of dialect data, in which the ideology of homogeneity of varieties is still very much reflected in both data collection and data representation methods:

9. We use the term variable in the sense usually employed in variationist sociolinguistics and dialectology, i.e. meaning “a linguistic unit with two or more variants involved in covariation with other social and/or linguistic variables” (Chambers & Trudgill 1998: 50).


One location (i.e. its base dialect) is represented by one ‘monolingual’ representative informant through one single data point/variant (cf. e.g. Goebel 1984).

Of course, as Smakman and Heinrich (2018), among others, point out, this is not an overly realistic scenario for variation in the city (and, incidentally, not for rural areas either). As a consequence of these different concepts of what kind of variation to expect at a single site, our results (based on usage frequencies) may not be entirely comparable with dialectometrical studies carried out in the ‘classical’ fashion. We will revisit this thought in Section 5.

Table 2. Transformed data structure, relative variant frequencies per location

<table>
<thead>
<tr>
<th>location name 1</th>
<th>relative frequency of variant a of variable 1</th>
<th>relative frequency of variant b of variable 1</th>
<th>relative frequency of variant a of variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.10</td>
<td>0.90</td>
<td>0.05</td>
</tr>
<tr>
<td>location name 2</td>
<td>0.25</td>
<td>0.75</td>
<td>0.33</td>
</tr>
<tr>
<td>location name 3</td>
<td>0.00</td>
<td>1.00</td>
<td>0.40</td>
</tr>
</tbody>
</table>

The relative variant frequencies per location are then used to calculate a (Euclidean) distance matrix of the linguistic dissimilarity of all pairs of locations. This matrix serves as the basis for all following quantitative analyses.

4. Areal variation

First, we approach the issue from a descriptive statistical angle: Do the three urban areas chosen for this study show spatial variation, and if yes, how is it structured? To answer this question, we use two quantitative methods that are common in both sociolinguistics and dialectometry, namely multidimensional scaling (MDS) and cluster analysis.14

14. In short, both are methods designed to reduce multidimensional variation (which – for cognitive reasons – cannot be categorized into accessible subgroups by the human brain) to a smaller number of dimensions that can be understood rather intuitively. A not entirely correct, but illuminating, analogy to multidimensional scaling would be taking a (two-dimensional)
4.1 Ruhr Area

Rounds seven to ten of the AdA contain 1,707 responses from 50 different locations in the Ruhr Area. However, not all of these 50 locations feature responses from all four rounds. We thus pooled some smaller, neighbouring locations with missing data into ‘virtual’ locations comprising more than one data location, resulting in a total of 34 locations for analysis (see Figure 4). The maximum distance between two locations is about 100 kilometres.

Figure 4. All Ruhr Area locations with responses in AdA rounds seven to ten; collapsed, ‘virtual’ locations marked by circling; the dotted line approximates the base dialect divide between Low Franconian (west) and Westphalian (east)

picture of a (three-dimensional) object from an angle that still allows the viewer of the picture to infer the original space. Naturally, this always comes at the cost of losing some of the original detail.

In the past, two of the authors of this study published several papers that (implicitly and explicitly) argued for using factor analysis for spatial exploration of dialect data instead of multidimensional scaling or hierarchical cluster analysis (cf. Pickl 2013; Pröll 2015; Pickl and Pröll 2019). We still believe that this is the preferable approach to big data sets with high intrinsic, primarily geographic variation, a scenario that is common for traditional rural dialects. The situation of small-scale variation of everyday language in cities, however, is different: (a) there is a lot of random variation and (b) the actual systemic differences are relatively small. Thus, it is preferable to employ methods that concentrate on extracting the hierarchically highest structures in these noisy datasets.
In combining individual locations, we made sure that we did not conflate data from the two main dialectal regions of the Ruhr Area, namely the Low Franconian area in the west and the Westphalian area in the east. A cluster analysis (using Ward’s method) of the (Euclidean) distances in the data set suggests a division into three clusters (Figure 5).

![Cluster dendrogram of the Ruhr Area, Ward’s method](image)

**Figure 5.** Cluster dendrogram of the Ruhr Area, Ward’s method

If we shade a map of the Ruhr Area according to this cluster analysis, we arrive at the map displayed in Figure 6.

Clearly, there is regional variation in the data that is not random: Locations that are geographically closer to each other tend to be linguistically similar. The three clusters correspond to three geographical areas in the west (dark grey), the
centre (white) and the east (light grey), while the individual spatial ‘outliers’ may be indicative of gradual or even patchy variation rather than clear areal patterns. From a dialectological perspective, this is hardly surprising. However, we are not dealing with base-dialectal data of NORM speakers here, but with the reported everyday language use of socially highly heterogeneous groups of speakers.15

Nonetheless, the shaded map, based on a cluster analysis, reveals some similarities with the dialectal structure of the Ruhr Area in that it reflects a general west-east pattern, although it does not quite match the division of Low Franconian dialects in the west and Westphalian dialects in the east, showing a three-fold rather than a two-fold division.

Judging from this cursory visual analysis that uses methods from quantitative geolinguistics, the variation of everyday language as reported in the rather large Ruhr Area looks analogous to dialectal variation when whole cities are treated as the smallest item. But will that result remain consistent if we change the scale, use smaller overall distances and treat districts of a city (rather than whole cities) as the smallest item?

---

15. Note that the focus here is not on the heterogeneity of the informants, but on that of the speakers in the respective towns and cities about whose everyday language the informants provide information.
4.2 Berlin

To answer this, the second case study focuses on Berlin, which has a higher average population density. The maximum travel distance within the boundaries of Berlin is about 45 kilometres. 1,354 responses from Berlin were collected in AdA rounds seven to ten, for which the informants provided the postal codes of their home addresses. We used these postal codes to assign each answer to one of the twelve present-day districts of Berlin (see Table 3).

Table 3. Districts of Berlin (as established in 2001)

<table>
<thead>
<tr>
<th>District number</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Mitte</td>
</tr>
<tr>
<td>02</td>
<td>Friedrichshain-Kreuzberg</td>
</tr>
<tr>
<td>03</td>
<td>Pankow</td>
</tr>
<tr>
<td>04</td>
<td>Charlottenburg-Wilmersdorf</td>
</tr>
<tr>
<td>05</td>
<td>Spandau</td>
</tr>
<tr>
<td>06</td>
<td>Steglitz-Zehlendorf</td>
</tr>
<tr>
<td>07</td>
<td>Tempelhof-Schöneberg</td>
</tr>
<tr>
<td>08</td>
<td>Neukölln</td>
</tr>
<tr>
<td>09</td>
<td>Treptow-Köpenick</td>
</tr>
<tr>
<td>10</td>
<td>Marzahn-Hellersdorf</td>
</tr>
<tr>
<td>11</td>
<td>Lichtenberg</td>
</tr>
<tr>
<td>12</td>
<td>Reinickendorf</td>
</tr>
</tbody>
</table>

If we run a multidimensional scaling analysis (two dimensions) of the variation in the Berlin data and plot the results, we arrive at Figure 7. This analysis accounts for 35.69% of the variance of the original data. There is noteworthy variation to be seen, but the underlying pattern seems unclear at first.

Applying the same type of cluster algorithm as above (Ward’s method, Euclidean distance) to the Berlin data yields the dendrogram in Figure 8. Again, a division into three (or alternatively two) clusters seems to be the most natural.

Figure 9 visualises these cluster results in the form of a map (a two-cluster solution would collapse the white area and the dark grey area into one). Similar to the Ruhr Area data, it is obvious that there is some order in the spatial distribution of variation in reported everyday speech. It is not random, but clearly follows a pattern that is geographically conditioned, i.e. a west-east as well as a north-south division.
Areal microvariation in German-speaking urban areas (Ruhr Area, Berlin, and Vienna)

Figure 7. MDS of Berlin

Figure 8. Cluster dendrogram of Berlin’s districts, Ward’s method
In our third and last case study, we focus on Vienna. The population/area ratio is the highest here, i.e. Vienna is more densely populated on average than the Ruhr Area and Berlin, with a maximum distance of about 26 kilometres within the inhabited parts of the city limits. We received 1,190 responses from Vienna. Again, we used the postal codes of the informants to assign them to Vienna’s 23 districts (see Table 4).

### Table 4. Districts of Vienna

<table>
<thead>
<tr>
<th>District number</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Innere Stadt</td>
</tr>
<tr>
<td>2</td>
<td>Leopoldstadt</td>
</tr>
<tr>
<td>3</td>
<td>Landstraße</td>
</tr>
<tr>
<td>4</td>
<td>Wieden</td>
</tr>
<tr>
<td>5</td>
<td>Margareten</td>
</tr>
<tr>
<td>6</td>
<td>Mariahilf</td>
</tr>
<tr>
<td>7</td>
<td>Neubau</td>
</tr>
<tr>
<td>8</td>
<td>Josefstadt</td>
</tr>
<tr>
<td>9</td>
<td>Alsergrund</td>
</tr>
<tr>
<td>10</td>
<td>Favoriten</td>
</tr>
</tbody>
</table>
Multidimensional scaling of the data, as seen in Figure 10, accounts for 19.89% of the underlying variation. While its interpretation is not obvious at first glance, the plot shows that there is a reasonably high amount of variation in the data – less so than in Berlin, but that is to be expected due to (geographic) size and number of speakers/inhabitants. Also, the number of speakers per location is lower, as we are dealing with almost twice the number of districts and, at the same time, only about half the number of speakers.

![Figure 10. MDS of Vienna's districts](image-url)
A cluster analysis again yields three major clusters, visualized in Figure 11 as a dendrogram with an accompanying map in Figure 12.

![Dendrogram of Vienna's districts, Ward's method](image.png)

Figure 11. Cluster dendrogram of Vienna’s districts, Ward’s method

Here, we observe a centre/south vs. inner ring vs. suburbs/north configuration. A two-cluster solution would collapse the light grey area and the dark grey area.

If we now revisit the MDS plot (Figure 8) and add the cluster information to it, the picture becomes clearer – the areal pattern is now visible in the MDS plot as well (Figure 13).
Figure 12. Cluster map of Vienna’s districts

Figure 13. MDS of Vienna’s districts, with colour added for cluster assignment
5. Discussion: The interplay of space and social factors

We have demonstrated here that methods devised for areal variation in rural base dialects enable us to detect variation in German-speaking urban areas as well, even if the underlying variability of the data is much smaller. While the Ruhr Area might be comparable in size to smaller dialect areas, even a very narrow scope – e.g. of only 26 km, as in the case of Vienna – still reveals geographical patterns.

Now that it is clear that urban areas do show spatial variation, the question remains: Is this geographical variation of the same type as regular (base-)dialectal variation, only on a smaller scale? The structure of geographically conditioned variation is often assumed to be what is usually referred to as a dialect continuum (cf. Chambers and Trudgill 1998), where diffusion of innovations is considered to travel according to a wave model. In this view, areal language variation is a function of geographical distance to a large extent (cf. Séguy 1971; Nerbonne 2010; Stanford 2012). Accordingly, typical dialect atlases aim at covering large areas of space while deliberately limiting the social scope. This focus on NORM speakers is motivated by an interest in geographical variation alone, while excluding social variation – as far as possible – from the picture.16

The interest in geographical variation has led to the notion that social variation would distract from the spatial picture and obscure the spatial signal. Some dialect atlases try to include social variation in a systematic way, e.g. with respect to the parameter of age (e.g. the Mittelrheinischer Sprachatlas, cf. Bellmann, Herrgen and Schmidt 1994–2002). More recent methods of data collection, such as crowdsourcing (e.g. Kolly and Leemann 2015) or crawling of social media like Twitter (e.g. Grieve, Nini and Guo 2018 or the ongoing Tweetolectology project, cf. Willis, Leemann, Blaxter and Gopal 2017–2020), have led to socially diverse datasets, while potential social factors such as age, income, etc. are often not available and can therefore not be linked to the linguistic data.

The AdA belongs to the latter category: There is no restriction in terms of age, gender, social background etc. of the informants, and data collection is not balanced for these parameters, i.e. it is not checked for these factors. In addition to the elicitation of colloquial language use, personal data are collected to a limited extent. The AdA data are therefore socially heterogeneous, while also partially documenting the social diversity.

In this section, we will explore the relevance of social factors for the use of colloquial German in the Ruhr Area, Berlin, and Vienna, as documented in the AdA, but we will restrict our analyses to averaged census data for reasons of simplicity.

16. While modern geolinguistics recognises that even ‘purely’ geographical variation entails local variation (cf. e.g. Pickl 2013: 52), the idea that local base dialects are somehow uniform and do not exhibit internal variation is not uncommon, and is reflected in the methodological decision to allow only one variant per variable in dialectometry (cf. Schneider 1984).
For all three test cases, we factor the parameters income, unemployment rates, age, and migration background into the forthcoming inferential statistics, using the most recent numbers available.

5.1 Ruhr Area

As seen above (4.1), the Ruhr Area shows signs of a west-east divide, which can be traced back to the two main old dialect areas, Low Franconian and Westphalian, to some extent.

In order to evaluate the relevance of social factors for language variation as well, we look for correlations between the MDS dimensions and census data for the individual locations, using Pearson’s correlation coefficient (Table 5). The strongest association is found for available income and MDS dimension 1, amounting to 7% explained variance. None of the correlations are statistically significant for either of the dimensions. A comparison with the corresponding results for the locations’ geographical coordinates, however, yields a value close to that of income for latitude and dimension 1, and the overall highest correlation found was for longitude and dimension 1, the latter being statistically significant. This is not surprising given the linguistic west-centre-east partition of the area shown by the cluster analysis (Figure 6).

Table 5. Statistical correlations between MDS dimensions and census data/geographical coordinates for the Ruhr Area. Correlations in bold print are statistically significant ($\alpha = 0.05$, two-tailed $t$-test)

<table>
<thead>
<tr>
<th>Pearson correlation</th>
<th>MDS dimension 1</th>
<th>MDS dimension 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$R^2$</td>
</tr>
<tr>
<td>available income 2015$^a$</td>
<td>0.27</td>
<td>0.07</td>
</tr>
<tr>
<td>unemployment rate 2016$^b$</td>
<td>−0.09</td>
<td>0.01</td>
</tr>
<tr>
<td>average age 2016$^c$</td>
<td>0.13</td>
<td>0.02</td>
</tr>
<tr>
<td>non-German population 2017$^d$</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>locations latitude</td>
<td>−0.23</td>
<td>0.05</td>
</tr>
<tr>
<td>locations longitude</td>
<td>0.47</td>
<td>0.22</td>
</tr>
</tbody>
</table>


The orientation of the coordinate system along a north-south and an east-west axis is, of course, arbitrary in geolinguistic terms. Since the coordinate system is orthogonal (as are the MDS dimensions), however, the sum of the two dimensions’ explained variances is not dependent on rotation. Therefore, the total explained variance of latitude and longitude is independent of the rotation of the coordinate system and gives a good (if somewhat simplified) impression of the overall relevance of geography for reported language use, as captured by the MDS analysis.
These results show that, for the Ruhr Area, geography appears to be a more relevant predictor of colloquial language variation than social differences, accounting for a total of 29% explained variance in the MDS dimensions. This seems plausible, given the large geographical area covered, but it is interesting to see that social differences do not have a stronger impact on colloquial language variation in such a heavily urbanised area.

5.2 Berlin

For Berlin, both a historical and an economic explanation for variation in reported colloquial language seem plausible. Firstly, the rather complex, hyphenated names for some of the twelve modern districts hint at their history: They have been merged from smaller historical towns and villages. In addition, during the years 1948–1990, when Germany was divided into a western and an eastern state (according to the occupation zones set at the Potsdam Conference regulating the administration of Germany after World War II), Berlin (as the capital of the former German Reich) was divided into a western and an eastern part as well.

If we shade the districts according to their respective affiliation to either West and East Berlin during the period of division (1948–1990) in an MDS plot (cf. Figure 7), we arrive at Figure 14. (The two districts Mitte and Friedrichshain-Kreuzberg were constructed in the 2001 reform from both former east and west districts to deliberately bridge the past division of the city. We account for this by shading them using both black and white.)

![MDS Berlin](image-url)

**Figure 14.** MDS of Berlin (divided)
Here, the interpretation is obvious: The first dimension of the MDS captures the old east-west divide, which demonstrates that it is still relevant for reported colloquial language nowadays. If we explore the associations between social factors and MDS dimensions (Table 6), we find generally higher values of correlation between both dimensions and social factors compared to the results for the Ruhr Area. The highest values are found for the correlation between average age and dimension 1 at 0.66 with 44% explained variance, which is statistically significant, and 0.46 (21%) for income and dimension 2.

### Table 6. Statistical correlations between MDS dimensions and census data/geographical coordinates for Berlin. Correlations in bold print are statistically significant ($\alpha = 0.05$, two-tailed $t$-test)

<table>
<thead>
<tr>
<th>Pearson correlation</th>
<th>MDS dimension 1</th>
<th></th>
<th></th>
<th>MDS dimension 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$R^2$</td>
<td>$r$</td>
<td>$R^2$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>average income 2015$^a$</td>
<td>−0.05</td>
<td>0.00</td>
<td>0.46</td>
<td>0.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>unemployment rate March 2019$^b$</td>
<td>0.23</td>
<td>0.05</td>
<td>−0.04</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>average age 2018$^c$</td>
<td>0.66</td>
<td>0.44</td>
<td>−0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>migration background 2018$^d$</td>
<td>0.18</td>
<td>0.03</td>
<td>0.03</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>locations latitude</td>
<td>−0.02</td>
<td>0.00</td>
<td>0.27</td>
<td>0.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>locations longitude</td>
<td>−0.63</td>
<td>0.40</td>
<td>−0.03</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Source: Michel (2019).
$^b$ Source: Bundesagentur für Arbeit (2019).
$^c$ Source: Statistik Berlin Brandenburg (2019: 5).
$^d$ Source: Michel (2019).

For geography and the MDS results, we find a strong link as well, namely for MDS dimension 1 and longitude, representing 40% explained variance, which reflects the relevance of the east-west divide as discussed above.

In contrast to the results for the Ruhr Area, however, social factors appear to play a more important role than geography in Berlin. This points to greater social and (perceived) sociolinguistic stratification in Berlin, which manifests itself in reported colloquial language use in the different districts.

### 5.3 Vienna

Vienna does not show the Berlin pattern of a clear west-east contrast. The division of Vienna (and likewise of Austria as a whole) into four occupation zones only lasted for ten years (1945–1955). Its centre/south vs. inner ring vs. suburbs/north configuration can be at least partially explained by socioeconomic factors: The central and southern districts, with the exception of the inner city district, (marked in white in Figure 12) are economically weaker, with relatively low income rates.$^{18}$

$^{18}$ Source: Redaktion DER STANDARD (2014).
and they include some of the districts with the highest numbers of first and second generation immigrants, measured by the percentage of schoolchildren with a language other than German as L1.\footnote{Source: Redaktion Die Presse (2009).}

Interestingly, social factors do not appear to play much of a role in colloquial language variation in Vienna, as captured by the two MDS dimensions (Table 7). The highest correlations are found between dimension 1 and migration background ($r = -0.19; R^2 = 4\%$) and for dimension 2 and income ($r = 0.22; R^2 = 5\%$).

Table 7. Statistical correlations between MDS dimensions and census data/geographical coordinates for Vienna. Correlations in bold print are statistically significant ($\alpha = 0.05$, two-tailed $t$-test)

<table>
<thead>
<tr>
<th>Pearson correlation</th>
<th>MDS dimension 1</th>
<th>MDS dimension 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$R^2$</td>
</tr>
<tr>
<td>average net income 2015$^a$</td>
<td>0.17</td>
<td>0.03</td>
</tr>
<tr>
<td>unemployment rate 2015$^b$</td>
<td>$-0.13$</td>
<td>0.02</td>
</tr>
<tr>
<td>average age 2015$^b$</td>
<td>0.15</td>
<td>0.02</td>
</tr>
<tr>
<td>migration background 2015$^b$</td>
<td>$-0.19$</td>
<td>0.04</td>
</tr>
<tr>
<td>locations latitude</td>
<td>0.26</td>
<td>0.07</td>
</tr>
<tr>
<td>locations longitude</td>
<td>$-0.07$</td>
<td>0.00</td>
</tr>
</tbody>
</table>


Like for the Ruhr Area, geography has a stronger impact on reported language use than any of the social factors, but here the results point to a north-south rather than an east-west divide or gradient: The MDS dimension 2 is negatively correlated with the locations’ latitude at $r = -0.48 \ (R^2 = 23\%, \text{ statistically significant}).$

This might be linked to the social housing policy in Vienna, which has aimed at offering subsidised, publicly owned living spaces for low-income households across districts since the 1920s, and is often cited as exemplary. This may have prevented starker contrasts between more affluent and poorer districts from developing, and might in turn have led to socially diverse, economically mixed neighbourhoods in each of the districts.

On the other hand, the cluster map of the Vienna data (Figure 12) is clearly reminiscent of the distribution of the social factors in question across Viennese districts.\footnote{E.g. Redaktion DER STANDARD (2014) or Redaktion Die Presse (2009).} It is quite possible that the two MDS dimensions do not capture enough of the underlying variation in the Vienna data (a little less than 20\%) to reflect patterns
of social variation. Additionally, in contrast to the east/west dichotomies of the Ruhr Area and Berlin, the geographically complex inner ring vs. suburbs configuration of Vienna cannot aptly be captured with just two geographical dimensions alone (although latitude captures at least that part of the structure that can be expressed by a north/south opposition).

### 6. Summary

The present study started with the assumption that urban language variation does not only reflect social structures, but that it may also display areal patterns.

In sum, the three urban areas under investigation show three different patterns: The Ruhr Area shows signs of a spatially conditioned, west-centre-east partition, which may be linked to the two main old dialect areas, Low Franconian and Westphalian, to some extent, as well as the relatively large geographical area covered. Social factors do not seem to play a crucial role in this conurbation, especially when compared to geography. Berlin shows a division along the west-east axis as well, but here it is clearly due to the decades-long division of the city into a western and an eastern half, which made everyday communication between people in the two parts virtually impossible. In addition to the west-east divide, age and perhaps income distribution seem to have an effect on language variation in Berlin.

Vienna shows an areal-linguistic pattern which reflects the social structure of the city: To a certain extent, the areal configuration of the cluster analysis matches the social structure of Vienna, where the central and southern districts have comparatively low average income and particularly high percentages of non-native German speakers. This pattern, however, does not seem to be captured by MDS analysis, and geography (here along a north-south axis) appears to have much stronger relevance for colloquial language variation than social factors.

On the whole, it becomes clear that geographical variation does play a role in language variation, even in geographically small and socially diverse entities such as urban areas, and it does so consistently in all three test cases, though with different spatial orientations that reflect different historical influences. Interestingly, social structure has a (slightly) stronger impact on reported language use than geography only in Berlin; in the two other cases, geography was the single strongest factor. The lower geographical threshold for spatial variation in urban areas does not seem to be reached even within Vienna, the smallest of the three test cases. This means that in urban spaces with diameters of 30 km and less, there is still geographical variation to be found in addition to social variation.
References


Established models of the spatial diffusion of linguistic innovations vary in their relationship to population density. Differences in prediction between the gravity models (Trudgill 1974), in which probability of diffusion is sensitive to settlement size, and the traditional wave models can be challenging to test due to the difficulty of large-scale and finely-grained geographical sampling. This paper tests the suitability of data derived from Twitter in establishing diffusion patterns. Using two case studies from British English – variation in the realisation of ditransitives, and preposition drop with go – we propose that the correlation between (local) population density and linguistic similarity to geographical neighbours can be used as a measure of hierarchical patterning for an individual innovation.

**Keywords**: dialectology, syntactic variation, computational sociolinguistics, British English, dative alternation

1. Introduction

How does the presence of large centres of population affect the spatial distribution of linguistic innovations? In most existing conceptions of language change, innovations originate in focal areas of high importance, before diffusing outward through space. The established models of the nature of this diffusion vary in their sensitivity to the heterogeneity of population density, and consequently in their predictions of the observed relationship between settlement size and grammatical variation. The essential distinction is between models that incorporate no such relationship and predict no empirical correlation, and those that assign weight to the distribution of the population and predict that large settlements measurably differ from smaller ones.
In traditional wave models (Schmidt 1872; Bloomfield 1933), change begins at a specific point in space and spreads evenly outward, with no formal dependence on any non-geographic quantity (‘contagion diffusion’). The ultimate consequence of this dynamic is a tendency for variants to be distributed in contiguous, internally homogeneous regions. In the gravity models (Trudgill 1974; drawing on the work of geographers: Hägerstrand 1952; Haggett 1965; Olsson 1965), the probability of change is still distance-dependent, but is additionally determined by the relative population of the areas involved: novel forms may jump from high-population city to high-population city (‘hierarchical diffusion’), bypassing spatially intermediate but lower-population points and giving rise to discontinuous patterns in the synchronic geographical distribution of variants. Bailey et al. (1993) and Wikle and Bailey (1997) observe an apparent inversion in the direction of this hierarchical patterning (contra-hierarchical patterning) with larger cities lagging behind lower-population areas in the adoption of a variant. A re-ordering of this type retains, however, the underlying notion that population size has a measurable effect on the distribution of variants at any single instant. In these classes of model (see also Labov’s (2001) cascade), the sharp gradient in population density that defines the edge of a city slows diffusion between the city and the surrounding area, making these likely locations of isoglosses; at the same, an assumed higher rate of long-distance social connections between high-population areas – potentially simply a consequence of the fact that such areas contain a large proportion of the total population – facilitates diffusion between them (Burridge 2018).

The problem with which this paper is concerned is the reliable detection and quantification of patterns of diffusion, given the distribution of a variable across space, but in the absence of the time dimension. Individual models of spatial diffusion, although not necessarily mutually exclusive, differ in their predictions as to the effect of urbanisation on the distribution of a variable at any single time-point. In order to evaluate such predictions, we ideally need datasets that are well-dispersed along multiple dimensions – distributed across a spatially contiguous area, and spanning the largest possible range of population densities and states of urbanisation. The extension of these problems to large geographical scales then requires quantities of data that cannot easily be produced via traditional dialectological data collection, which typically samples very few informants per site. Furthermore, these issues are not necessarily amenable to the methods of variationist sociolinguistics, in which relatively small numbers of distinct geographical locations are typically considered. We argue here that one possible source of appropriately rich data lies in the use of large-scale social media. Such datasets provide us with access to the real-time language use of millions of individuals, and in particular allow us to resample multiple different geographical regions at similar levels of granularity. To this end, we establish (Section 2) a localised corpus of Twitter data in British
English, covering the time period between October 2017 and May 2019. This corpus consists of all tweets posted by a set of users, for whom profile metadata and keyword analysis (Section 2.1.1) allow localisation to within a civil parish (or smaller administrative unit) within Britain and Ireland, representing more than a million unique individuals in total.

Using these data, we investigate (Section 3) the current distribution of two variables in British English: the extensively studied variability in the ditransitive construction, or the dative alternation (recent work: Siewierska and Hollmann 2007; Bresnan and Ford 2010; Wolk et al. 2013; Yáñez-Bouza and Denison 2015, among others), and the more recent case of the innovation of preposition drop with go and certain noun phrases (go __ (the) pub, go __ school; Myler 2013; Biggs 2015). These variables differ substantially in their historical context, in their geographical extent (and their attendant presence or absence in individual high-population areas), and in the structure of the space of variants. For these variables, we test a potential measure of ‘hierarchicity’, or the detectable presence of a recent process of gravity-like diffusion, by examining the correlation between local population density and linguistic similarity to geographical nearest neighbours; we find that the ditransitive variants and preposition drop differ under this metric. The probabilistic distribution of variants of ditransitives is sensitive to geography, showing clear regional boundaries that recall those in the *Survey of English Dialects*, but generally insensitive to the size of localities. In contrast, the distribution of preposition drop in go-phrases shows a stronger direct dependence on population density. We relate these differences to the history and current status of each variable under consideration, and argue overall that the characterisation of diffusion processes is incomplete without a rigorous model of their operation.

2. Methodology and corpus construction

The essential property introduced above (and expanded upon in Section 4 below) is the presence or absence of a relationship to settlement size, and therefore to local population density at each point in a geographical sample. The predictions of the gravity and wave models coincide in the limit of perfectly uniform population density, and we therefore ideally require a sufficiently non-uniform distribution of settlement size in the region of sampling. In order to test the validity of any individual model, therefore, we need our dataset to have two properties: (i) enough underlying variation in the true population density must exist for different models of diffusion to make statistically distinguishable predictions, and (ii) our respondents must be densely distributed over the range of different settlement sizes.
If settlement size and population density have a truly flat distribution, failing property (i) above, then irrespective of the depth of experimental sampling, differences in the underlying mechanism of diffusion are unlikely to result in statistically significant differences in the resultant distribution of linguistic variation. In order to maximise the probability that our tests of diffusion give rise to meaningful results, we need to consider the distribution of population density itself in the geographical region of interest. The optimal test case spans a range of orders of magnitude with uneven distribution, so that a high-population locality always has low-population geographic neighbours with which a comparison can be made (the number of highly dense areas is much smaller than the number of less dense areas). We note (Figure 1) that a dataset of British English inherently draws from an underlying non-linear spatial distribution of population densities, and satisfies condition (i); this would not be the case for a country like the Netherlands, where the range of settlement sizes is much narrower.

![Population density in Great Britain over a 1km grid, based on the 2011 Census and the 2015 Land Cover Map (Reis et al. 2017)](image)

**Figure 1.** Population density in Great Britain over a 1km grid, based on the 2011 Census and the 2015 Land Cover Map (Reis et al. 2017)

One solution to the second problem of sampling – the requirement that our dataset must represent as much of the population density curve as possible – is the use of large-scale corpora. In principle, social-media platforms have unprecedented scale and wide coverage of the population, therefore allowing access to much larger and more broadly-distributed volumes of information than might be acquired using traditional methods. This should then facilitate the investigation of large-scale problems of spatial variation. The use of Twitter-based corpora is, concordantly, on the rise in dialectological research (Russ 2012; Bamman, Eisenstein and Schnoebelen 2014; Doyle 2014; Eisenstein et al. 2014; Gonçalves and Sánchez 2014; Jones 2015; Huang et al. 2016; Grieve, Nini and Gou 2017; Grieve et al. 2019; among others).
Although a number of works exist that investigate the distribution of morphosyntactic variables in Twitter corpora (Haddican and Johnson 2012; Doyle 2014; Stevenson 2016; Strelluf 2019), the use of Twitter data remains less established for this purpose than for the investigation of lexical variation, and we intend this discussion to advance this area. Much of the existing work using Twitter corpora also deals with very widely spoken world languages (e.g. American English; world Spanish) across geographical regions that are many orders of magnitude larger than Britain and Ireland, on which we focus here. There is comparatively little existing work even on British English (although see Stevenson 2016; Shoemark et al. 2017; Grieve et al. 2019). The further major goals of the following discussion are to extend the use of Twitter corpora to the investigation of morphosyntactic variables, and to replicate the results of traditional (dialectological and sociolinguistic) methodologies at various scales of geography.

2.1 Corpus structure

Due to the limitations of both the Twitter search API and data storage, posts made by UK-based users cannot be singled out exhaustively. A cap applies to the use of the free Twitter streaming API – any individual search query can return no more than 1% of all data. Downloading all posts tagged in English generates a very large volume of irrelevant (largely American) material, which would render analysis prohibitively difficult, and would likely lose a large fraction of British and Irish English posts to the data cap. In order to extract an appropriate set of posts, therefore, our final corpus of British English has two components. Initially, we collected via the Twitter ‘streaming’ API all posts made between October 2017 and May 2019, and geolocated within the ranges $49.8^\circ$N to $61^\circ$ N and $-11^\circ$ E to $2^\circ$ E (covering the UK and Ireland). This set was cleaned to remove all retweets not containing original content, all posts whose language was identified as non-English either by Twitter’s own language-detection or by the Chromium Compact Language Detector 2 (CLD2) library, and all formulaic automated posts made by applications such as Youtube or Foursquare. This amounted to 104,657,500 posts from 1,734,260 unique individuals.

Geo-location on Twitter is opt-in, and, as such, the set of users with geolocation metadata available (and who appear in a search based on a bounding box) is subject to geographical and demographic biases away from both the overall set of Twitter users and the general population, for example towards younger users and towards urban areas (Malik et al. 2015; Pavalanathan and Eisenstein 2015; see Section 2.1.1).

1. ‘Application Programming Interface’.
In an attempt to partially mitigate this effect, the original data were supplemented with a further set of 49,857,358 posts from 826,653 unique individuals who were not themselves present in the geolocated corpus, but whose usernames were mentioned by the users in that corpus and who could be localised to Britain or Ireland by the procedure outlined in Section 2.1.1. Finally, tweets were annotated and aggregated for syntactic context, as outlined for the case studies in Section 3.

2.1.1 Localisation

Essentially, all previous research using Twitter corpora for the purpose of spatial dialectology uses Twitter’s own geolocation metadata. As noted above, these metadata are only available for a small fraction of the total set of users (1–2%; Eisenstein 2018: 369), for which the degree of representativeness of the overall population is unknown. Pavalanathan and Eisenstein (2015) identify biases in age and gender associated with geotagged data for American English, and Hecht and Stephens (2014) measure bias towards urban areas. In dialectological research, a further issue arises: ideally, we want to associate individuals with the location of their language acquisition, rather than with the set of coordinates at which any particular tweet is written.

With this in mind, we developed a keyword-based strategy for assigning locations to individual users. We give only a brief overview here, however, a more technical discussion of this procedure, with specific reference to Welsh data, has already appeared in print (Willis 2020). The index of place-name ‘keywords’ corresponded to the set of possible places, at the smallest geographical scale, with which a user could be associated; this combined the Index of Place Names for Great Britain (Office For National Statistics 2016) with the Ordnance Survey Ireland (2016) gazetteer of Irish townland names. Rows corresponding to uninhabited places and overwhelmingly common dictionary words were removed. Commonly attested spelling variants were added, along with abbreviations (with varying degrees of official status; matching ‘Hull’ to Kingston-upon-Hull, and ‘Cdiff’ to Cardiff).

Across the total set of users, we considered two Twitter metadata fields, along with the set of all posts produced by each user within our corpus: the user-provided ‘location’ and ‘bio’ fields, both of which allow free text entry. In principle, these fields are intended to contain a description of the user’s (current) location and a short personal biography of the user respectively, although the validity and relevance of this user-provided information is very variable. While the majority of users (82.9%) provided some information in the location field in particular, this was not necessarily useful, as we could derive little from very large-scale locations such as ‘UK’, or entirely non-geographic locations such as ‘Hell’ or ‘The kitchen’. High-quality, small-scale matches to individual place-names appeared in the ‘location’ field for
676,361 users (39%), and in the ‘bio’ field for 222,354 (13%). For each individual, we extracted all matches to our set of place name keywords that appeared in each metadata field; we then extracted a number of small-scale place mentions appearing in each user’s tweets.

The result of this procedure was an ordered set of usernames paired with all candidate small-scale places, or candidate ‘localisations’, for which at least one match was found: this list of place name matches was assigned an initial score defined on a provisional basis (10 for the presence of a match in the location field; 5 for a match in the user description; 1 for each instance appearing in the user’s post text). These scores were then weighted by all references in the user’s metadata to larger-scale hierarchical geographical areas (‘Lancashire’ or ‘North Wales’ increased the score of all geographically subordinate candidate points), and by the presence of high-frequency local demonyms which were associated with both point localities (‘Mackem’ for Sunderland) and with broader regions (‘Yorkshireman’ corresponded to all candidate points in Yorkshire). Scores were incremented if mentions of small-scale place names appeared in a (manually defined and non-exhaustive) list of constructions that suggested direct relationships thereto (X born and bred; I’m from X originally), and lowered in the opposite case (from X living in Y). Remaining ties were broken by choosing the smaller of two locations in any ties involving major metropolitan areas (e.g. formulations such as ‘London/Penrith’ were mapped to Penrith), and choosing the largest possible location in the case of ambiguous name (e.g. Newcastle-upon-Tyne rather than Newcastle-under-Lyme for ‘Newcastle’, if no other disambiguating information was available). This then resulted in a set of 1,033,058 users (59.6%), for whom a best-guess low-level localisation within Britain and Ireland was produced.

3. Mapping the distribution of morphosyntactic variants

With the localised corpus established, datasets were extracted corresponding to two different cases of morphosyntactic variation in British English. Section 3.1 discusses variation in ditransitives, and Section 3.2 discusses the distribution of preposition drop with go. These case studies differ in geographical distribution, in the number of competing variants, and in the presumed rate at which change is taking place at the present day. We establish an overview of these cases in this section, and follow with a discussion of the evidence that they provide for diffusion processes in Section 4.
3.1 Dative alternation revisited

In most varieties of English, the realisation of ditransitive verbs frequently involves competition between two semantically synonymous constructions, which together constitute the ‘dative alternation’: a prepositional dative with the Goal following the Theme and marked by a preposition, and a double object construction with Goal preceding Theme. A third variant, in which the Theme precedes the Goal but the Goal is not marked by a preposition, has been associated in the literature largely with the north-west and the Midlands of England. Language-internally, it is associated with clauses in which both objects are pronominal (Gast 2007; Siewierska and Hollmann 2007; Haddican 2010; Gerwin 2013; Biggs 2016). Examples are given in (1) below.

(1) British English ditransitives with pronominal objects
   a. Give it me. Theme-Goal ditransitive
   b. Give me it. Goal-Theme double object construction
   c. Give it to me. Theme-Goal prepositional dative

Although the more general variation in ditransitive constructions is not restricted to pronominal forms and may as well appear with full nominal referents, the dataset in this discussion is restricted to cases of the form V it to Pronoun/V Pronoun it/V it Pronoun, for which there exists some evidence of a distinct historical development (Gast 2007; Gerwin 2013; Yáñez-Bouza and Denison 2015).

In order to construct a relevant dataset, all expressions matching the prepositional dative (X it to Y, where Y was any pronoun – including abbreviated or modified spellings found frequently on Twitter) were extracted; all X identified conclusively as non-verbs by manual inspection were then removed, and the remaining list was used to extract from the corpus all expressions matching X Y it and X it Y. This produced a set of 27,757 tweets by 23,530 users; of these, 18,065 tweets (14,769 users) contained the prepositional dative, 3,703 (3,346 users) the Theme-Goal ditransitive, and 5,989 (5,415 users) the Goal-Theme double-object construction. Figures 2, 3 and 4 map the spatial distribution of the resultant data; users localised to the same point (corresponding essentially to a single centre of population) are pooled to give an overall value at that point, and $k$-nearest-neighbour kernel density estimation is then applied (with $k =$ number of localities)$^2$ to smooth fluctuations in the data.

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$^2$ This is a heuristic applied due to the complexity of bandwidth selection in kernel density estimation.
How closely do our results align with existing evidence for the distribution of ditransitive variation? The literature on the syntactic conditioning and diachrony of this alternation is extensive, but a consensus picture of the geo-spatial patterns involved is less forthcoming. Individual studies have established the availability of particular variants in specific dialect regions, but the most up-to-date account of the detailed geography of ‘present-day’ ditransitive variation essentially remains the *Survey of English Dialects* (SED; Orton 1962; Orton, Sanderson and Widdowson 1978: map S1; and for the most recent maps, Upton and Widdowson 2006), despite the now considerable age of the data (collected between 1950 and 1961) and the unrepresentativeness of the mostly rural elderly speakers surveyed. The distribution in the SED samples only a single informant at each location, and therefore not necessarily a complete picture of the proportional availability of each option. This assigns the prepositional dative, which is the minority variant in the SED, to a large contiguous region in the southwest of England and to the vicinity of London, the Goal-Theme double object construction to a corridor along the eastern half of England, extending across to Cumbria in the far northwest, and the Theme-Goal construction to the western Midlands and the traditionally defined northwest of England surrounding Manchester and Lancashire.

More generally, despite the often substantial distance in apparent time, the SED distribution is concordant with the results of more recent work that evaluates the prevalence of variants over coarsely grained dialect regions in both historical and present-day corpora (Siewierska and Hollmann 2007; Gerwin 2013; Szmarcsanyi 2013; Yañez-Bouza and Denison 2015). On a more geographically fine-grained level, Stevenson (2016) tests a sub-case of the current one (considering the past tenses of *give* and *send* only) over a Twitter-based corpus, and finds fairly robust agreement with the distribution in the SED. This is also the case for our dataset; the most apparent deviation from traditional surveys lies in the much higher incidence of the prepositional dative. While clear regional patterns corresponding to preferences for particular variants are apparent, there is no locality in our dataset for which the rate of occurrence of the prepositional dative is lower than 15%, and it is clearly the majority variant overall. One interpretation of this is that the relationship between Twitter data and spoken data is not entirely straightforward, and that ‘overuse’ of the prepositional dative may represent the use of a perceived prescriptive written standard. The geographical patterning of the remaining variants in our data is however in line with traditional predictions. We can distinguish Scotland, Cumbria, and the northeast of England – preferring the Goal-Theme double object construction – from the northwest of England, south and west Yorkshire, and the West Midlands, where higher rates of the Theme-Goal construction are observed. The spatial distribution of the relevant data is shown in Figures 2, 3 and 4.
One consequent interpretation of our dataset here is that, although all three major variants tend to appear in competition across the entire area, the regions defined by transition from one highly-preferred variant to another have been relatively stable over time – isogloss movement since the period of the SED has been comparatively small-scale. On broad geographic scales, there is then little evidence for any identifiable pattern of diffusion in this data, and we do not expect any measure of hierarchicality to show significant results for this case. If patterns of gravity diffusion and of hierarchical structure emerge from the spread of innovations through

**Figure 2.** Incidence of the Theme-Goal ditransitive (*give it me*) with two pronominal objects, as a fraction of all ditransitive contexts for 23,530 UK and Ireland Twitter users with $k$-nearest-neighbour smoothing ($k = \sqrt{\text{number of localities}} = 24.7$)
both local and long-distance social networks, then this observation is expected, given the long-standing nature of the variation in English ditransitives. The case in this subsection may then constitute a control case for the statistical detection of patterns of diffusion. We establish in the following subsection (Section 3.2) a contrasting case, which instead involves the recent spread of a single variant through major urban centres.
3.2 Preposition drop

In Section 3.1, we established that the Twitter dataset has the capacity to replicate results arrived at by traditional means for a single variable. The variation in British English ditransitives thus provides a test case for our measurements of diffusion type in the following sense: the history and current distribution of the variants suggest that we should predict little trace of a single diffusion process, and therefore a negative result from any test of hierarchicality. As a contrast, this section presents...
a case of recent, rapid change in the geographical distribution and rate of use of an innovative variant.

A number of varieties of British English show optional non-realisation of the preposition to following certain, typically directional verbs, as in (2).

(2) Preposition-deletion across varieties of British English
Manchester: She went _ the pub. (Haddican 2010: 2430)
Liverpool: She said we’d go _ the pub, and _ the pub we went. (Biggs 2014: 19)
London: We went _ pub last night. (Hall 2019: 2)

This has been reported for several varieties of northwest England (Haddican 2010; Myler 2013; Biggs 2014, 2015), and for London and the surrounding area (Bailey 2018; Hall 2019), with differences in the corresponding set of environments, as well as in the presence or absence of the definite article. Speakers may be unaware that these constructions are not grammatical in varieties other than their own (Biggs 2014). Based on these factors, this variable seems to be a good candidate for a relatively recent and potentially ongoing change.

Previous work on preposition drop has been based on relatively small and discrete samples of speakers of largely urban varieties, and as such there is no pre-existing picture of the full geographical extent of this variation. The literature does establish syntactic differences between the preposition drop in different dialects, which cannot be dealt with fully here. Relevant to our dataset is the observation (Bailey 2018; Hall 2019) that preposition drop in the southeast of England is subject to the semantic restriction that the noun phrase, which must be interpreted as the directional Goal, must denote a familiar or anaphoric location or an institution. In the northwestern varieties described by Myler (2013) and Biggs (2014), the range of verbs permitted (including at least come, go, run, drive, nip, jog in Lancashire, and wider still in Liverpool) is much broader than in the southeastern ones, in which the verb must be come or go; the determiner may optionally be present in the northwest, but is obligatorily dropped in the southeast.

For the purpose of this analysis, we wish to establish a fairly general overview, and as such discussion is restricted to those contexts where preposition drop is possible in all previously described varieties; that is, we consider only collocations involving the verb go, subject to ‘familiarity’ restrictions on the goal noun. We also collapse the variation in the presence or absence of the determiner. In order to construct the dataset, all sequences were extracted that involved go and a small set of frequent, semantically appropriate noun phrases: go (to) Amsterdam, go (to) Asda, go (to) (the) chicken shop, go (to) college, go (to) jail, go (to) London, go (to) Manchester, go (to) Nando’s, go (to) Paris, go (to) prison, go (to) (the) pub, go (to) school, go (to) Tesco. This yielded a total of 34,615 tweets produced by 26,618
individuals. The resulting spatial distribution appears in Figure 5. As in the previous case, users localised to the same point are pooled to give an overall frequency of use at that point, and $k$-nearest-neighbour kernel density estimation is applied to reduce the visual impact of random fluctuations in the data.

The geographic extent of preposition drop turns out to be superset of the regions identified in the existing literature. The presence of preposition drop is strongly associated with both the northwest of England (Liverpool, Manchester), and with London and the surrounding areas, which corresponds to previous descriptions. To this the large urban areas of the West Midlands can be added. Doing

![](image)

**Figure 5.** Overview of the occurrence of preposition drop in `go _ (the) N` for 26,618 UK and Ireland Twitter users, with $k$-nearest-neighbour smoothing ($k = \sqrt{\text{number of localities}} = 25.8$)
so forms a contiguous corridor corresponding to highly densely-populated and well-connected areas, excluding several geographically neighbouring regions of comparatively low population density (East Anglia, the south coast of England, and most of Wales). The current distribution of preposition drop therefore constitutes a candidate case for true hierarchical diffusion.

4. Approaches to the quantification of diffusion

We now consider the problem of the correlates of diffusion, which is the focus of the remainder of this article. In Section 2, we set out the essential structure of the individual datasets we considered, and mapped the distributions of each possible variant in Figures 2–5. These distributions are entirely synchronic; although we might in principle reconstruct apparent-time information from the content of the Twitter corpus (Nguyen et al. 2014), this is beyond the scope of this paper, and we restrict ourselves here to the inference of diffusion processes from the stationary geographic distribution of individual features.

Given a dataset that takes the form of a single snapshot of the state of the population, our task is then to quantify the extent to which it resembles either the output of a gravity-like process or a wave-like one. This requires both that we define a standard for comparison, and that we establish the expected properties of the output in either idealised theoretical case. As such, we begin by briefly recapitulating the predictions and prerequisites of the existing models of spatial diffusion.

In a wave model, change diffuses evenly outward from the point of origin. From a formal point of view, this reduces to an inverse relationship between the rate and probability of change and distance, such that the influence of any locality on any other is dependent only on the distance between them. In Trudgill’s (1974) formulation of a gravity dynamic, a relationship to the relative population of localities is introduced; the likelihood that a pair of locations interact remains inversely related to the distance between them, but must also incorporate their relative size. At any given instant in the progression of a diffusion process, the influence of any one locality on any other must in either model be determined by the relevant set of parameters. Adapting Trudgill (1974), we can then establish the influence of one population centre on another in the form of (3).

\[
I_{ij} = \begin{cases} \frac{1}{d_{ij}^2} & \text{WAVE} \\ \frac{n_in_j}{d_{ij}^2} & \text{GRAVITY} \end{cases} \times \frac{n_i}{n_i+n_j}
\]

where \(d_{ij}\) is the distance from \(i\) to \(j\), and \(n_i\) is the population at \(i\).
This implementation of influence requires translation into quantities with which we can engage more directly. While we reserve a serious treatment of this issue for future work, we provide here a brief elaboration in order to motivate our measurements of hierarchicality. For the sake of abstraction, if it is assumed that the diffusion process in question manipulates a binary variable, then the interaction in (3) can be treated as the probability $p$, normalised as in (4), that any individual in $j$ will ‘flip’ to the new feature value due to the influence of $i$.

\begin{equation}
    p_{ij} = \frac{I_{ij}}{I_{kj}}
\end{equation}

The expected number of individuals whose feature value at $j$ changes due to $i$ is, in formal terms, given by the binomial distribution with parameters $p_{ij}$ and $n_j$; that is, the result of flipping $n_j$ biased coins (representing each individual at $j$) with probability $p_{ij}$, which has the simple expected value $n_j p_{ij}$. The final expected value at $j$ is then the sum over these expected values scaled by the proportion of individuals at $i$ with the innovative feature. If the number of individuals with the new feature value is $k_j$ at location $j$, then at each point in time the size of the innovation-using population can be estimated as in (5).

\begin{equation}
    k_j(t + 1) = k_j(t) + \sum_{i \neq j} n_i p_{ij} \frac{k_i}{n_i}
\end{equation}

Equation (5) allows us to produce idealised simulations of the output of a hierarchical or a wave process, which will be considered in Section 4.1.1. Any such implementation carries several cautions. First, the delineation of an individual centre of population is not necessarily straightforward or uniquely determined – some implications of this observation are considered in Section 4.2. Second, the definition of either model as a process operating over individual localities is an abstraction away from the individual-level dynamics that are conjectured to underlie mechanisms of diffusion. One potential desideratum for measures of diffusion is that they must be extensible to cases where interacting individuals are considered to be the locus of change, rather than interacting localities.

\textsuperscript{3} As noted in the introduction to Section 2, a necessary consequence of the structure of either process is their sensitivity to the various initial conditions on the set of localities and associated populations over which they apply. In the limiting case of uniform population density, in which all localities have similar populations ($n_i \cong n_j$ for all $i, j$), the factor $n_j n_i$ is essentially constant, and the gravity process is not distinguishable from the wave process.
4.1 Measurement

Consider the simplified examples in Figures 6 and 7. These are the output of iterating the processes in (3)–(5) over regularly spaced points, with the innovative variant present only at the highest-population point (0,0) at time $t = 0$. The relationship between the highest-population points, at (0,0) and (2,0), and their lower-population neighbourhoods is not constant across models. At a single timepoint during the operation of a hierarchical process, high-population points have higher rates of use of the new variant than lower-population points, and the nearest geographical neighbours of a high-population point $P$ are less similar in innovation prevalence to $P$ than they would be in the result of a wave process.

This generalisation thus offers a heuristic justification for a potential metric of degree of hierarchicality. Given a measure of the similarity between localities that is defined over the distribution of relevant variants at each point, we can evaluate the similarity of a single locality to its nearest geographical neighbours. In the intermediate stages of the operation of a hierarchical diffusion process, this local neighbourhood similarity is expected to have an inverse relationship with population. An alternative, more intuitive measurement of diffusion type is the relationship between population and fraction of the innovative variant. Under certain initial conditions, our proposal avoids the need to pre-specify the innovative variant, and is more clearly extensible to cases of change involving large numbers of competing forms. These initial conditions are that the number of large settlements or contiguous high-density areas must be small relative to the number of

Figure 6. Illustrations of the output of a wave process over gridded points
low-density settlements, such that large settlements only have small neighbours. As noted in Section 2, this is likely also a prerequisite for hierarchical diffusion to be at all observable.

If large settlements are outnumbered by smaller ones, as is the case for most real-world scenarios, then the neighbours of any large settlement are lower-population, and as such, likely to be behind their high-population neighbours in the spread of innovation. At the same time, the neighbours of smaller settlements are on average similarly sized, and, as such, should pattern together with one another. A relationship of this type is not expected to hold in the absence of hierarchical diffusion; if there is no underlying relationship between a locality’s population and its position in the course of change, then no relationship between nearest-neighbourhood similarity and population is expected to hold.

With these observations in mind, it remains to define the measure of nearest-neighbourhood similarity and its domain of evaluation. There is a sampling problem related to the use of discrete individual locations in real-world datasets, especially in the Twitter dataset under consideration: location boundaries are arbitrary, since the definitions of single point locations can differ in their overall level of granularity, and variation in whether data are associated with a generic point (‘London’) or a specific one (an individual London borough) can interfere with the identification of the true local population density. In order to mitigate this, we take the domain of evaluation of the similarity metric to be individual grid cells rather than localities, binning the continuous geographical space of each dataset into various sizes of an $n \times n$ grid. A more realistic idea of local population density is obtained by normalising data into a grid over the whole map.

Figure 7. Illustrations of the output of a hierarchical process over gridded points
We define the similarity between two cells in a standard way, as the cosine similarity: that is, the inner product of vectors representing the relative proportions of variants in each cell. For two cells A and B, with normalised variant proportions \((a_1, a_2, a_3)\) and \((b_1, b_2, b_3)\), the cosine similarity is \(a_1b_1 + a_2b_2 + a_3b_3\): this is 1 if the cells are identical, and 0 if the cells never overlap at all. For each cell, we compute this quantity for each of its four ‘von Neumann’-neighbours (i.e. with which it shares an edge), and average over all four for a measure of the similarity between the cell and its local neighbourhood.

4.1.1 Simulated data

One illustration of the appropriateness of this measure is its performance over ‘realistic’ simulated data; that is, over simulated data with similar distributional characteristics to the datasets considered in Section 3, but for which the process of diffusion is simulated as in (5). The outcome of a measure of hierarchicality should then be straightforwardly predictable for such data, giving statistically distinguishable results for simulated processes of gravity and wave diffusion. Note, however, that this does not constitute a formal proof of validity.

Figure 8 shows the output of five iterations of the processes in (3)–(5), over a set of points with associated populations generated by sampling 50,000 randomly chosen users from the corpus and their locations. In both cases, the initial frequency of the ‘new variant’ was set to 0 at every point outside the largest point, and to 0.5 at the largest point. We then evaluate nearest-neighbourhood similarity and consider its relationship to logarithmically scaled population in Figure 9. For the simulated

![Figure 8](image-url)
process of gravity or hierarchical diffusion, nearest-neighbourhood similarity has a statistically-significant and an essentially linear relationship (with negative slope) to the logarithm of the local population (Pearson’s $r = -0.3253$, $p < 0.00001$). In the simulated wave case, as expected, no statistically meaningful relationship holds (Pearson’s $r = 0.0630$, $p = 0.3583$).

### 4.2 Evaluating real data

At this point, we have seen that a case of true hierarchical diffusion will show a statistically meaningful inverse relationship between the (log-scaled) population in a cell and the similarity in distribution of variants between that cell and its local neighbourhood. We can turn now to evaluate this claim on real-world, large-scale datasets. Section 3 previously presented two cases of variation for which there are grounds to expect measurably different responses.

Recall the variation in the ditransitive construction from Section 3.1. The geographical distribution essentially acts as the lower bound of the overall reliability of our social media corpus, in that it has a fairly substantial resemblance to the findings of more traditional methodologies. At the same time, the hypothesis is that this variation has been subject to relatively little active spatial diffusion in its recent history, and as such we do not expect to see any significant hierarchicality.

The relationship between neighbourhood similarity and the log-scaled population of each grid cell is plotted in Figure 10 below, and the relevant tests of correlation are given in Table 1. We note, with respect to real-world data, that the choice of grid size – which we have not yet considered – has a substantial effect on the outcome. If the spatial region of interest is divided into a small number of very large grid cells, we risk collapsing together high-density localities and surrounding
sparser regions, while the use of a very fine grid would overfill the lowest-population regions of the plot. In order to remain sensitive to this measurement effect, multiple potential grid sizes must be considered.

Irrespective of the choice of grid over which to evaluate neighbourhood similarity, we find no evidence here for a statistically significant relationship between the population of an individual cell and its similarity to its nearest neighbours. All correlation coefficients in Table 1 are small, with p-values never approaching significance. Similarity to the local neighbourhood appears essentially independent of population for this dataset, and rather normally distributed. This is as expected if no hierarchical diffusion has taken place.

Consider now the less historically established case of preposition drop that was set out in Section 3.2. Unlike ditransitive variation, preposition drop appears to be a relatively recent phenomenon. The fact of its relative recency suggests that we may well expect traces of a recent mechanism of spatial diffusion, and the current geographical distribution that we observe in Figure 5 suggests that areas of high population density are more advanced in the spread of the change than closely

![Figure 10](image.png)

Figure 10. Averaged similarity over the von Neumann neighbourhood plotted against log-scaled cell population, for the ditransitive variation shown in Figures 2 and 3

<table>
<thead>
<tr>
<th>Grid size</th>
<th>Pearson’s r</th>
<th>p-value</th>
<th>Grid size</th>
<th>Pearson’s r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 × 10</td>
<td>−0.0371</td>
<td>0.7839</td>
<td>60 × 60</td>
<td>0.0113</td>
<td>0.7621</td>
</tr>
<tr>
<td>20 × 20</td>
<td>0.0120</td>
<td>0.8781</td>
<td>70 × 70</td>
<td>−0.0005</td>
<td>0.9877</td>
</tr>
<tr>
<td>30 × 30</td>
<td>0.0121</td>
<td>0.8377</td>
<td>80 × 80</td>
<td>−0.0021</td>
<td>0.9450</td>
</tr>
<tr>
<td>40 × 40</td>
<td>0.0093</td>
<td>0.8481</td>
<td>90 × 90</td>
<td>0.0043</td>
<td>0.8823</td>
</tr>
<tr>
<td>50 × 50</td>
<td>0.0090</td>
<td>0.8290</td>
<td>100 × 100</td>
<td>0.0055</td>
<td>0.8398</td>
</tr>
</tbody>
</table>
neighbouring but less densely populated regions. The relationship between neigh-
bourhood similarity and log-scaled population is shown graphically for this dataset
in Figure 11, and the corresponding tests of correlation are shown in Table 2.

Figure 11. Averaged similarity over the von Neumann neighbourhood plotted against
log-scaled locality population, for the preposition-drop data in Figure 5

There is an immediately apparent and statistically robust difference between the
measure in this case and the measure as evaluated in the previous dataset. The
preposition-drop data show a significant inverse correlation between the popu-
lation of a cell and its similarity to its nearest neighbours, irrespective of the total
number of grid cells chosen. As the population of a cell increases, the probabil-
ity that it is dissimilar to its immediate neighbourhood increases, and, as such,
high-density areas stand out from their low-density surroundings. This is the char-
acteristic appearance of hierarchicality. The impressionistic claim that preposition
drop has undergone a recent, underlyingly gravity-type spatial process of diffusion
therefore seems to be substantiated.

Table 2. Pearson’s $r$ and $p$-value for neighbourhood similarity against log-scaled locality
population, for the preposition-drop data

<table>
<thead>
<tr>
<th>Grid size</th>
<th>Pearson’s $r$</th>
<th>$p$-value</th>
<th>Grid size</th>
<th>Pearson’s $r$</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10 \times 10$</td>
<td>$-0.3553$</td>
<td>0.0040</td>
<td>$60 \times 60$</td>
<td>$-0.1165$</td>
<td>0.0019</td>
</tr>
<tr>
<td>$20 \times 20$</td>
<td>$-0.2256$</td>
<td>0.0025</td>
<td>$70 \times 70$</td>
<td>$-0.1224$</td>
<td>0.0004</td>
</tr>
<tr>
<td>$30 \times 30$</td>
<td>$-0.1905$</td>
<td>0.0008</td>
<td>$80 \times 80$</td>
<td>$-0.0910$</td>
<td>0.0054</td>
</tr>
<tr>
<td>$40 \times 40$</td>
<td>$-0.1697$</td>
<td>0.0003</td>
<td>$90 \times 90$</td>
<td>$-0.0808$</td>
<td>0.0083</td>
</tr>
<tr>
<td>$50 \times 50$</td>
<td>$-0.1328$</td>
<td>0.0013</td>
<td>$100 \times 100$</td>
<td>$-0.0791$</td>
<td>0.0077</td>
</tr>
</tbody>
</table>
5. Conclusions

This paper has tested the utility of social-media data in producing geographically finely grained descriptions of the distribution of individual variables, and in characterising the spatial diffusion process by which a particular distribution arose. We have seen in the case of variation with ditransitives that social-media data are sufficient to reproduce the large-scale geographic trends seen in datasets established by more traditional means. For preposition drop, it was possible to use data of this type to establish the existence of variation in varieties other than those for which such constructions have previously been documented. The existence of a statistically reliable and measurable inverse relationship between point population density and similarity to the surrounding neighbourhood was used as an indicator of recent hierarchical diffusion; this relationship is present in simulated and real hierarchical data, and absent in other cases.

There are several possible directions for future work in this line. Computational simulation of the output of an idealised spatial diffusion process is suggested, but underexplored in this work, and more sophisticated simulated data would allow comparison of more varied quantitative measures of diffusion. One essential component of a more complete understanding of spatial diffusion is the time dimension; the inference of age-related metadata for individual Twitter users, while a difficult problem (Nguyen et al. 2014), offers potential for the application of geographically rich social-media datasets to apparent-time analysis.

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References


Biggs, Alison. 2016. Locating variation in the dative alternation. Linguistic Variation 16(2). 151–182. https://doi.org/10.1075/lv.16.2.01big


Wolk, Christoph et al. 2013. Dative and genitive variability in Late Modern English. Exploring cross-constructional variation and change. Diachronica 30(3). 382–419. https://doi.org/10.1075/dia.30.3.04wol

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The city as a complex socio-cultural structure plays a central role, economically, administratively as well as culturally. Factors such as higher population density, a more expansive infrastructure, and larger social and cultural diversity compared to rural areas have a substantial impact on urban society and urban communication.

Focusing on the latter, the contributions to this volume discuss the characteristics and dynamics of urban language use, considering aspects such as contact, variation and change, as well as identity, indexicality, and attitudes, but also spatial factors including mobility, urbanisation/counterurbanisation, and diffusion processes.

The collected articles provide an update of ‘first wave’ approaches of variationist sociolinguistics, but also establish a connection to ‘third wave’ research for readers from a broad range of fields, especially sociolinguistics, variationist linguistics, and dialectology. The book presents modern methodological and conceptual ideas and a wealth of new findings but also serves as a reference work, combining theoretical discussions with results from recent empirical studies.